PART A

IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 192
PART A

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CENTRAL RADIO PROPAGATION LABORATORY
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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h'F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1959.

Smoothed Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	145	140	136	132
1960	128											

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
- Buenos Aires, Argentina
- La Quiaca, Argentina
- Trelew, Argentina
- Tucuman, Argentina
- Ushuaia, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Brisbane, Australia
- Canberra, Australia
- Hobart, Tasmania
- Townsville, Australia

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:
- Mundaring, Western Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
- Bunia, Belgian Congo
- Elisabethville, Belgian Congo
- Leopoldville, Belgian Congo

Belgian Royal Meteorological Institute:
- Dourbes, Belgium
- Lwiro (Central African Institute for Scientific Research)

Escola Politecnica, University of Sao Paulo:
- Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:
- Inverness, Scotland
- Port Lockroy
- Slough, England

Defence Research Board, Canada:
Churchill, Canada
Eureka, Canada
Frobisher, Canada
Meanook, Canada
Ottawa, Canada
Resolute Bay, Canada
St. John's, Newfoundland
Victoria, Canada
Winnipeg, Canada
Yellowknife, Canada

Instituto Geofisico de Los Andes Colombianos:
Bogota, Colombia

Danish National Committee of URSI:
Narsarssuak, Greenland

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

French National Center for Telecommunications Studies:
Djibouti, French Somaliland
Tananarive, Madagascar

Heinrich Hertz Institute, German Academy of Sciences, Berlin:
Juliusruh/Rügen, Germany

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
Lindau/Harz, Germany

Ionospheric Institute, Breisach, Germany:
Freiburg, Germany

The Royal Netherlands Meteorological Institute:
Paramaribo, Surinam

Geophysical and Geodetic Institute, Genoa, Italy:
Genoa (Monte Capellino), Italy

National Institute of Geophysics, City University, Rome, Italy:
Rome, Italy

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
Tromso, Norway

Telecommunication Administration, Oslo, Norway:
Svalbard, Norway

Rhodes University, Union of South Africa:
Grahamstown, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Lycksele, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Sottens, Switzerland

United States Army Signal Corps:
Adak, Alaska

National Bureau of Standards (Central Radio Propagation Laboratory):
Boulder, Colorado
Byrd Station, Antarctica
Maui, Hawaii

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by CRPL and the U. S. Army Signal Corps. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. These data are in place of the standard ionogram reductions formerly provided by this Station. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed for an IBM 704 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

Quantity	Units	Remarks
Electron Density (N)	$x10^3$ = electrons/cm^3	Body of table; given at each 10 km of height.
NMAX	$x10^3$ = electrons/cm^3	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$x10^{10}$ = electrons/cm^2 column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is less than 4+. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, are averaged in a similar way.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright,J.W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65 pp 185-191.

ELECTRON DENSITY

PUERTO RICO 60 W 1 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL	F	F	F	J	J			B		B	B	B
HMIN	199	202	459	414	276	394	477		110			
SCAT	32.6	56.7	56.4	90.3	61.0	82.2	72.6		273			
HMAXF	289	337	589	598	410	560	621		518			
SHMAX	565	266	369	573	382	431	246		785			
KM												
630							257					
620							257					
610							255					
600				477			251					
590			446	476			245					
580			443	472			235					
570			433	465		389	225					
560			417	455		389	212					
550			389	441		387	196					
540			358	424		383	176					
530			325	405		376	153					
520			289	385		366	127		240			
510			252	362		352	94.6		240			
500			213	335		336	66.1		240			
490			169	308		318	45.2		239			
480			121	273		297	12.4		239			
470			75.3	237		272			238			
460			12.4	194		246			237			
450				143		219			236			
440				97.2		186			235			
430				60.0		150			234			
420				33.5	461	114			232			
410					461	79.4			231			
400					459	45.6			229			
390					450				227			
380					431				225			
370					409				223			
360					383				220			
350					351				217			
340		329			310				212			
330		328			262				208			
320		322			213				204			
310		311			157				200			
300		294			100				195			
290	1240	273			60.0				191			
280	1215	247			23.7				186			
270	1131	215							182			
260	986	182							178			
250	754	148							175			
240	508	116							172			
230	286	86.0							169			
220	143	57.5							166			
210	71.4	35.0							163			
200	12.4								159			
190									154			
180									149			
170									144			
160									136			
150									128			
140									122			
130									117			
120									112			
110									12.4			

ELECTRON DENSITY

PUERTO RICO 60 W 1 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL	8	8			A	S	B		A			S
HMIN			110	110	110	111	199	179	247	223	248	194
SCAT			153	96.8	66.3	65.5	59.6	63.2	66.0	64.0	51.6	64.0
HMAXF			425	369	326	219	244	311	419	383	381	314
SHMAX			1935	1670	1530	1233	1279	1005	553	568	413	355
KM												
430			949									
420			949						565			
410			947						562			
400			943						553			
390			937						537	634	565	
380			929						514	634	565	
370			919	1119					485	628	558	
360			905	1117					452	614	540	
350			890	1108			1528		414	591	513	
340			875	1093			1526		373	564	477	
330			857	1069	1460		1506		328	527	423	
320			839	1044	1457	1143	1464	1215	280	480	362	446
310			816	1013	1439	1137	1394	1215	232	424	290	446
300			791	975	1405	1119	1309	1206	187	362	222	441
290			754	929	1354	1085	1205	1181	146	300	157	430
280			711	875	1287	1039	1089	1143	108	240	106	414
270			662	819	1206	981	960	1086	73.1	175	71.4	393
260			612	754	1102	917	794	1016	48.2	121	46.5	367
250			561	693	990	846	608	923	12.4	83.8	7.6	335
240			515	632	865	771	446	807		55.7		286
230			477	573	742	695	310	668		30.5		219
220			444	524	623	614	179	526				139
210			419	477	517	528	83.8	389				76.2
200			397	433	428	446	12.4	240				40.2
190			373	389	355	374		112				
180			346	346	299	304		12.4				
170			314	302	254	243						
160			280	262	215	196						
150			245	227	182	165						
140			216	198	156	143						
130			195	176	140	126						
120			182	164	133	116						
110			49.6	12.4	60.0							

ELECTRON DENSITY

PUERTO RICO 60 W 2 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL	A	A	A	A				B		A		B
HMIN		288	259	242	283	329	326	197	110	116	110	111
SCAT		57.1	46.7	60.0	69.6	63.6	50.1	59.9	64.0	61.3	77.2	48.0
HMAXF		431	351	372	452	471	421	341	327	348	323	289
SHMAX		237	226	215	273	277	231	393	816	1353	1629	1493
KM												
480						316						
470						316						
460					274	314						
450					274	308						
440		286			272	298						
430		286			267	284	355					
420		283			259	266	355					
410		276			248	245	351					
400		264			235	219	339					
390		247			219	187	321					
380		227		262	201	153	297					
370		203		262	179	121	262					
360		175	375	260	157	90.6	219					
350		145	375	253	133	63.7	166	454		1143		
340		116	370	244	110	42.8	106	454		1138		
330		89.5	356	230	88.5	3.8	44.7	450	735	1117	1446	
320		68.2	337	214	68.9			437	733	1080	1446	
310		51.8	305	193	53.9			420	722	1029	1436	
300		36.8	257	166	42.2			397	703	965	1414	
290		6.3	195	136	17.9			369	673	901	1381	1937
280			132	106				335	634	842	1334	1921
270			71.4	77.9				300	589	788	1277	1856
260			12.4	54.5				258	540	734	1211	1777
250				32.7				215	487	674	1126	1625
240								173	431	608	1013	1420
230								130	376	532	875	1143
220								83.8	326	463	729	875
210								53.1	288	402	598	679
200								17.7	259	353	501	540
190									234	314	428	457
180									209	279	373	397
170									181	242	327	347
160									152	205	286	301
150									129	168	246	252
140									114	142	208	198
130									106	131	177	174
120									100	49.6	158	161
110									40.2		40.2	

ELECTRON DENSITY

PUERTO RICO 60 W 2 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL	A						B			F	F	F
HMIN	112	110	110	109	109	109	199	200	198	208	298	349
SCAT	41.4	43.7	50.8	54.3	52.9	53.3	45.2	56.8	58.1	52.0	77.8	50.8
HMAXF	275	278	274	284	289	279	282	312	341	334	463	467
SHMAX	1387	1231	1164	1198	1274	1149	570	537	476	349	470	349
KM												
470											446	484
460											446	482
450											443	469
440											436	449
430											426	419
420											412	383
410											394	341
400											373	292
390											348	240
380											319	172
370											286	97.2
360											251	55.4
350									590		211	5.2
340									590	477	168	
330									586	476	120	
320								754	571	468	77.6	
310								754	545	451	49.6	
300								745	515	424	12.4	
290				1341	1500		1004	725	479	389		
280	1969	1569	1446	1339	1488	1500	1004	693	431	348		
270	1962	1557	1444	1318	1449	1489	988	651	372	300		
260	1907	1505	1420	1275	1381	1452	946	591	301	247		
250	1794	1404	1368	1204	1293	1388	883	508	224	184		
240	1627	1256	1284	1117	1170	1309	794	399	161	117		
230	1396	1105	1180	1011	1004	1183	665	262	109	71.4		
220	1143	930	1036	891	834	1004	508	152	74.9	46.6		
210	904	794	853	754	679	754	240	67.0	49.6	7.4		
200	679	669	679	631	550	540	12.4		12.4			
190	530	562	540	520	453	398						
180	433	468	433	432	379	301						
170	369	389	362	362	320	240						
160	323	330	310	313	270	198						
150	276	277	262	269	228	165						
140	228	228	222	223	192	140						
130	193	196	196	185	162	125						
120	168	183	183	169	148	116						
110		40.2	83.8	112	71.4	71.4						

ELECTRON DENSITY

PUERTO RICO 60 W 3 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	F	F						A	B	A		
HMIN	316	271	209	256	266	293	309		110	108	112	110
SCAT	57.7	54.8	40.3	79.8	65.4	60.7	66.0		142	253	281	201
HMAXF	454	373	284	441	420	449	454		435	445	465	429
SHMAX	390	350	236	349	265	253	285		751	882	1092	1139
KM												
470											366	
460	484						316				366	
450	484			310		286	316			316	365	
440	478			310		284	313		342	316	365	
430	464			309	286	279	306		342	316	364	446
420	443			305	286	270	295		341	315	363	446
410	417			299	284	256	280		339	315	362	445
400	380			290	279	240	264		337	314	361	444
390	335			278	271	219	243		333	313	359	442
380	289	500		265	259	194	215		329	311	357	440
370	234	500		249	245	165	184		324	309	355	437
360	172	492		231	226	137	150		318	307	353	433
350	118	477		210	204	110	116		311	305	350	429
340	77.9	454		187	179	87.4	83.8		303	303	348	424
330	49.6	421		163	153	68.5	58.4		295	300	345	419
320	17.2	381		139	127	53.5	41.4		287	297	341	412
310		335		116	99.9	41.8	4.7		276	294	338	405
300		270		93.3	75.1	17.7			265	290	334	397
290		173	477	72.9	56.2				253	287	328	390
280		71.4	476	55.5	41.8				240	281	323	381
270			463	41.3	12.4				228	276	318	373
260			436	12.4					216	270	313	365
250			397						207	264	308	356
240			326						198	259	304	346
230			219						193	254	300	337
220			91.0						188	249	297	328
210			12.4						183	244	293	319
200									178	238	289	310
190									169	233	284	304
180									161	228	275	299
170									147	222	266	293
160									129	210	250	287
150									114	187	225	271
140									107	164	192	238
130									101	146	160	206
120									87.2	134	148	181
110										107		60.0

ELECTRON DENSITY

PUERTO RICO 60 W 3 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A											
HMIN	109	109	109	109	110	109	205	204	197	253	245	287
SCAT	101	57.8	73.5	61.7	47.4	67.4	45.4	52.6	64.2	55.8	73.1	58.8
HMAXF	332	287	279	271	252	275	310	320	356	388	409	420
SHMAX	801	723	681	643	506	544	381	385	417	340	386	312
KM												
430												389
420												389
410											389	386
400											387	378
390										432	382	364
380										430	373	344
370										421	360	320
360									454	405	345	289
350									453	382	327	249
340	492								447	353	303	205
330	492							548	436	316	272	158
320	490						625	548	419	272	235	112
310	486						625	544	395	224	198	75.0
300	480						617	529	368	175	158	48.2
290	469	652					592	505	335	127	123	12.4
280	458	650	590	634		540	555	477	299	88.3	91.7	
270	445	638	588	634		539	501	426	259	58.0	66.2	
260	427	618	581	629	608	534	424	367	215	31.0	46.9	
250	409	586	567	615	607	522	328	298	170		19.9	
240	389	545	549	593	598	503	219	212	130			
230	373	497	526	565	576	480	131	135	95.4			
220	357	449	496	524	537	452	71.4	76.5	66.2			
210	343	410	461	477	488	415	34.0	40.2	45.9			
200	333	380	425	424	434	370			12.4			
190	327	359	391	378	380	323						
180	321	346	362	340	330	277						
170	315	332	338	306	286	233						
160	308	312	313	277	250	198						
150	272	281	286	253	217	169						
140	226	244	237	219	190	145						
130	196	205	202	183	167	126						
120	184	189	186	168	150	116						
110	49.6	143	127	127	49.6	40.2						

ELECTRON DENSITY

PUERTO RICO 60 W 4 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL												
HMIN	274	252	231	206	185	207	220	199	109	110	109	109
SCAT	50.6	60.4	65.7	56.7	82.1	67.4	65.6	28.8	52.4	53.6	55.4	65.7
HMAXF	390	381	382	352	372	351	353	262	263	292	304	325
SHMAX	275	316	315	273	293	193	201	215	592	1035	1425	1966
KM												
400	389											
390	389	389	348									
380	385	389	348			257						
370	374	386	345			257						
360	354	377	338	329	255	208	229					
350	327	363	326	329	252	208	229					
340	294	345	313	325	247	207	227					
330	253	322	295	316	240	203	222					1907
320	207	289	271	301	232	197	214					1903
310	161	249	240	283	223	188	205				1626	1880
300	109	204	205	258	212	180	195			1119	1623	1835
290	64.6	158	168	229	196	166	178			1119	1599	1766
280	35.9	115	132	196	176	151	158			1104	1546	1684
270		71.4	99.0	161	155	133	134	573	754	1071	1473	1577
260		42.7	71.4	129	133	113	108	573	754	1017	1370	1432
250			52.4	99.7	112	92.4	83.8	549	743	944	1240	1265
240			34.0	75.3	92.5	71.4	58.4	492	719	856	1050	1096
230				56.2	75.2	53.8	40.2	389	679	760	875	917
220				42.0	60.0	40.2		219	628	662	679	754
210				12.4	48.4	9.4		88.9	564	573	540	617
200					35.7			12.4	462	490	446	514
190					12.4				362	421	377	440
180									279	357	319	382
170									222	303	262	332
160									179	257	215	286
150									146	219	190	244
140									121	187	176	211
130									106	141	168	191
120									92.9	128	158	174
110									60.0	83.8	71.4	71.4

ELECTRON DENSITY

PUERTO RICO 60 W 4 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		A	A	A	A	A	A					A
HMIN	111							203	237	238	246	216
SCAT	57.7							67.8	60.2	61.2	57.2	48.4
HMAXF	326							380	375	389	366	340
SHMAX	2045							1251	1129	1102	1069	812
KM												
390								1341		1290		
380								1341	1406	1283		
370								1334	1404	1259	1446	
360								1312	1383	1217	1442	
350								1276	1344	1159	1417	1215
340								1223	1285	1086	1371	1215
330	2128							1159	1206	988	1298	1202
320	2122							1081	1113	875	1210	1163
310	2086							980	984	754	1096	1096
300	2017							856	834	620	935	1011
290	1922							723	654	491	754	884
280	1795							592	477	362	508	734
270	1621							457	286	219	310	573
260	1427							326	161	112	136	389
250	1240							219	79.2	60.0	45.6	231
240	1050							143	29.1	12.4		127
230	875							93.5				71.4
220	716							60.0				27.5
210	590							32.2				
200	500											
190	433											
180	377											
170	329											
160	286											
150	237											
140	208											
130	191											
120	179											

ELECTRON DENSITY

PUERTO RICO 60 W 5 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL												
HMIN	225	239	258	229	238	222	209	220	110	110	111	111
SCAT	48.8	57.4	45.8	67.5	52.9	55.6	44.1	49.0	52.5	52.8	65.5	58.8
HMAXF	332	362	378	379	356	349	307	291	298	301	320	328
SHMAX	763	683	554	605	543	532	402	455	1041	1379	1772	2086
KM												
380			834	643								
370		917	828	640								
360		917	803	630	774							
350		907	754	613	772	716						
340	1215	883	692	587	757	711						
330	1215	846	608	556	729	695					1683	2193
320	1196	794	508	519	687	666					1683	2182
310	1151	724	408	477	631	628	688			1569	1674	2140
300	1081	631	310	428	555	573	684	824	1179	1569	1645	2066
290	988	524	205	371	462	503	664	824	1172	1552	1597	1959
280	847	396	112	310	349	417	625	813	1143	1506	1523	1826
270	657	262	60.0	251	232	324	573	785	1096	1429	1430	1651
260	446	143	12.4	190	132	225	492	745	1025	1320	1327	1446
250	228	67.3		127	64.1	143	389	679	933	1192	1211	1222
240	97.2	12.4		71.4	12.4	78.8	262	586	834	1050	1096	1017
230	44.9			12.4		44.3	143	417	716	891	973	794
220							71.4	49.6	617	741	846	633
210							12.4		517	608	716	524
200									434	495	598	446
190									357	411	490	400
180									289	344	400	360
170									230	289	330	326
160									182	245	281	291
150									150	208	238	240
140									128	179	202	201
130									117	158	177	190
120									102	146	163	180
110									12.4	49.6		

ELECTRON DENSITY

PUERTO RICO 60 W 5 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		A	S	A	A	A	A	A	A			
HMIN	110	110					199	198	215	240	245	251
SCAT	63.3	64.7					54.8	61.5	59.7	56.8	51.2	56.4
HMAXF	330	349					317	348	377	386	371	370
SHMAX	2234	2351					1197	1084	981	898	804	749
KM												
390										1143		
380									1143	1140	1143	1027
370									1139	1120	1143	1027
360									1119	1083	1129	1019
350		2177						1265	1084	1028	1094	994
340	2260	2167						1260	1032	960	1037	953
330	2260	2132						1239	966	862	960	898
320	2246	2070					1697	1201	881	743	856	822
310	2204	1979					1690	1146	782	614	725	716
300	2131	1869					1655	1078	671	477	573	589
290	2043	1730					1592	986	555	350	428	446
280	1918	1555					1502	881	440	219	278	300
270	1751	1386					1391	764	335	139	152	143
260	1555	1193					1240	643	240	83.8	77.1	63.8
250	1319	1004					1029	508	152	47.1	35.0	
240	1070	855					754	369	97.2			
230	875	728					432	240	60.0			
220	716	622					198	127	28.2			
210	573	540					83.8	64.1				
200	483	472					12.4	12.4				
190	421	421										
180	375	378										
170	335	338										
160	297	299										
150	255	259										
140	225	230										
130	210	212										
120	198	200										
110	60.0	49.6										

ELECTRON DENSITY

PUERTO RICO 60 W 6 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL												
HMIN	243	224	200	208	224	207	247	199	108	110	109	111
SCAT	34.0	37.3	46.4	68.7	49.9	61.2	49.2	40.9	53.1	55.1	66.2	61.7
HMAXF	326	306	306	355	344	357	343	283	306	302	328	346
SHMAX	534	500	443	463	336	356	305	453	1089	1375	1994	2321
KM												
360				508		410						
350				507	484	409	477					2310
340				501	484	402	476					2305
330	1131			490	474	390	468				1907	2272
320	1121			474	455	371	451				1899	2209
310	1066	1038	697	454	429	349	423		1290	1583	1870	2112
300	960	1030	694	428	389	320	386		1286	1583	1819	1991
290	805	986	676	393	341	286	335	875	1260	1563	1743	1836
280	619	907	643	350	278	245	273	873	1211	1518	1656	1643
270	389	782	590	299	219	204	198	851	1143	1446	1540	1423
260	179	608	522	245	157	164	107	806	1050	1351	1395	1220
250	60.0	362	438	186	100	124	40.3	729	932	1228	1240	1050
240		152	335	130	60.0	89.7		608	813	1076	1062	883
230		52.9	234	83.8	27.3	63.7		446	691	901	899	735
220			127	49.6		45.2		340	564	707	754	608
210			60.0	12.4		12.4		97.2	436	551	626	503
200								12.4	330	438	524	424
190									250	362	440	362
180									188	306	373	313
170									112	256	321	262
160									94.4	214	278	193
150									85.6	176	240	172
140									81.1	153	205	159
130									77.8	141	179	153
120									74.5	132	165	146
110									66.6	60.0	97.2	

ELECTRON DENSITY

PUERTO RICO 60 W 6 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		A				A	A	A	A	A		
HMIN	111	112	110	109	109				228	239	240	270
SCAT	56.1	55.5	55.5	55.9	63.5				60.1	57.0	58.3	52.9
HMAXF	333	338	326	323	331				373	372	365	390
SHMAX	2510	2602	2533	2247	2147				1082	1005	1008	860
KM												
400												1215
390												1215
380									1328	1316		1205
370									1327	1315	1341	1174
360									1312	1301	1339	1121
350									1279	1267	1320	1050
340	2790	2827			2161				1225	1212	1282	948
330	2789	2812	2865	2465	2160				1158	1138	1221	824
320	2755	2751	2857	2464	2145				1069	1050	1147	679
310	2678	2644	2806	2434	2103				950	917	1050	508
300	2555	2487	2707	2365	2032				809	780	917	310
290	2395	2294	2571	2252	1937				654	620	740	152
280	2179	2045	2375	2104	1819				496	417	540	71.4
270	1907	1771	2128	1919	1669				350	240	346	
260	1599	1494	1819	1704	1483				219	127	171	
250	1304	1240	1491	1471	1279				121	65.2	71.4	
240	1004	984	1195	1240	1096				63.9	12.4		
230	794	805	960	990	892				12.4			
220	643	663	737	794	716							
210	540	553	587	621	573							
200	467	466	486	508	466							
190	410	399	417	425	389							
180	366	351	373	362	332							
170	329	316	335	310	286							
160	290	280	296	265	247							
150	232	233	257	231	211							
140	190	191	228	202	179							
130	174	174	198	178	159							
120	164	163	184	167	149							
110			40.2	112	97.2							

ELECTRON OENSITY

PUERTO RICO 60 W 7 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL								A				A
HMIN	240	235	222	187	195	192	237	199	111	109	110	112
SCAT	54.9	58.2	47.2	64.5	61.8	75.5	54.3	62.0	45.9	54.1	61.8	48.9
HMAXF	357	362	323	367	341	366	352	325	279	300	319	308
SHMAX	896	803	543	668	532	481	333	686	986	1529	1941	1841
KM												
370		1072		688		461						
360	1290	1072		686		461	461					
350	1285	1060		676	625	456	461					
340	1260	1033		658	625	448	456					
330	1213	989	896	630	621	435	442	885				
320	1143	933	895	595	608	419	421	884			1984	
310	1059	851	879	552	587	398	393	872		1786	1973	2128
300	932	746	843	504	558	374	356	849		1786	1936	2114
290	754	619	789	451	522	345	307	813		1771	1873	2057
280	540	477	702	395	477	310	245	770	1406	1726	1786	1943
270	310	286	585	338	417	272	179	709	1392	1650	1669	1798
260	138	143	436	282	355	230	120	620	1345	1555	1529	1621
250	67.3	71.4	286	229	282	189	66.8	508	1269	1414	1359	1425
240		35.0	143	179	213	149	20.3	374	1158	1240	1164	1231
230			60.0	137	149	112		240	983	1034	976	1050
220				100	97.2	79.6		127	754	834	802	863
210				69.7	60.0	54.9		66.7	573	643	653	700
200				46.9	29.4	33.2		12.4	417	508	535	567
190				12.4					310	417	451	471
180									244	352	389	403
170									198	299	335	351
160									161	254	290	306
150									134	215	247	267
140									113	182	207	233
130									105	161	178	201
120									97.9	147	164	181
110										97.2	12.4	

ELECTRON DENSITY

PUERTO RICO 60 W 7 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL				A	A	A						
HMIN	111	109	109	110	109	110	219	209	188	240	267	253
SCAT	65.5	63.1	65.3	66.3	61.1	66.8	61.5	57.4	56.7	55.3	49.4	57.6
HMAXF	343	337	351	349	349	354	354	334	354	381	392	385
SHMAX	2518	2484	2362	2196	2160	2239	1749	1303	1012	894	789	921
KM												
400											1143	
390										1143	1142	1215
380										1143	1125	1213
370										1131	1084	1195
360			2144			2161	2161		1167	1100	1019	1159
350	2294		2144	2016	2096	2159	2159		1165	1050	931	1104
340	2292	2465	2129	2007	2084	2137	2134	1683	1148	983	819	1034
330	2271	2457	2089	1976	2044	2091	2080	1681	1113	896	679	938
320	2224	2418	2021	1922	1963	2019	1997	1658	1057	794	540	810
310	2148	2348	1925	1840	1868	1923	1907	1609	986	665	389	661
300	2051	2247	1812	1742	1750	1808	1754	1533	903	540	240	496
290	1923	2125	1669	1618	1605	1669	1572	1446	808	417	127	310
280	1766	1956	1513	1478	1446	1499	1362	1312	705	286	65.9	172
270	1599	1742	1341	1325	1261	1313	1143	1156	599	179	19.9	83.8
260	1430	1508	1194	1143	1096	1143	834	981	499	97.2		43.7
250	1265	1278	1050	980	931	938	508	781	401	52.6		
240	1118	1079	893	834	794	754	240	540	305			
230	970	875	754	703	662	598	97.2	310	219			
220	834	679	643	596	554	477	12.4	143	137			
210	705	563	540	508	466	389		12.4	87.6			
200	594	477	463	436	398	319			53.7			
190	494	417	405	382	342	268			12.4			
180	407	377	357	341	292	227						
170	352	344	314	305	246	192						
160	313	317	276	268	207	163						
150	277	290	242	227	179	142						
140	237	248	221	194	163	129						
130	203	210	198	176	154	121						
120	184	188	185	166	147	114						
110		97.2	97.2	97.2	83.8	49.6						

ELECTRON DENSITY

PUERTO RICO 60 W 8 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL										A		
HMIN	234	219	190	187	210	237	289	228	112	110	111	109
SCAT	56.9	49.1	58.6	54.3	66.4	65.5	50.6	49.9	47.8	63.4	58.8	58.5
HMAXF	362	331	325	329	350	400	402	320	281	316	321	330
SHMAX	808	566	561	321	269	270	218	526	999	1574	1849	2312
KM												
410						286	310					
400						286	310					
390						284	305					
380						279	295					
370	1096					271	278					
360	1095				304	259	256					
350	1084				304	245	226					
340	1055	844			302	227	192					2396
330	1010	844	707	403	297	205	152	854			1922	2396
320	952	834	706	400	288	181	112	854		1569	1922	2379
310	866	806	696	391	276	154	74.1	845		1566	1904	2327
300	754	760	675	373	263	127	47.6	818		1544	1859	2236
290	608	697	643	352	243	102	7.3	775	1767	1503	1786	2124
280	460	624	608	322	219	80.2		716	1367	1441	1681	1962
270	286	528	553	286	188	62.8		626	1350	1354	1555	1758
260	143	406	485	245	153	49.6		495	1303	1253	1400	1526
250	77.5	273	406	203	119	34.3		335	1225	1143	1229	1289
240	40.2	150	320	161	86.0	6.9		161	1122	1011	1050	1084
230		71.4	240	124	60.0			28.2	974	875	875	893
220		12.4	156	90.0	41.1				794	736	716	716
210			89.4	64.6					595	608	586	598
200			49.6	44.9					446	502	488	508
190				12.4					330	411	417	446
180									251	335	359	397
170									198	286	310	358
160									161	244	267	322
150									135	210	231	288
140									117	181	201	248
130									107	161	177	210
120									98.6	147	164	189
110										83.8		143

ELECTRON DENSITY

PUERTO RICO 60 W 8 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL				A	A	A	A	A	A	A		S
HMIN	110	109	109	108			199		219	274	256	243
SCAT	59.8	65.5	57.2	66.0			55.3		61.4	49.2	45.5	51.8
HMAXF	326	344	336	351			339		380	379	364	361
SHMAX	2344	2660	2355	2508			1386		1188	953	909	921
KM												
390									1393			
380									1393	1460		
370									1384	1446	1473	1367
360				2361					1355	1403	1471	1367
350		2571		2361					1309	1327	1440	1350
340		2569	2430	2344			1786		1240	1221	1374	1308
330	2448	2542	2424	2300			1773		1161	1096	1266	1240
320	2441	2486	2383	2229			1732		1058	917	1133	1155
310	2402	2395	2306	2129			1661		925	697	960	1023
300	2328	2282	2186	2009			1565		777	477	740	834
290	2217	2139	2032	1853			1437		627	240	489	624
280	2079	1952	1852	1669			1273		469	71.4	262	417
270	1907	1727	1644	1467			1096		335		119	219
260	1688	1473	1420	1257			902		225		43.6	106
250	1446	1240	1193	1027			679		138			49.6
240	1190	1050	1004	857			477		83.8			
230	976	857	816	716			286		49.6			
220	794	700	679	608			153		6.7			
210	643	585	563	522			71.4					
200	531	500	485	456			12.4					
190	451	433	424	398								
180	394	381	374	346								
170	348	335	331	301								
160	307	299	291	260								
150	272	262	251	223								
140	240	224	218	195								
130	214	198	197	177								
120	187	186	186	167								
110	60.0	97.2	97.2	127								

ELECTRON DENSITY

PUERTO RICO 60 W 9 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL									A	A	A	A
HMIN	233	229	209	197	231	208	250	197	108			112
SCAT	53.2	49.7	56.1	51.8	55.1	61.4	60.2	62.0	55.5			56.9
HMAXF	345	343	330	351	368	348	386	349	314			331
SHMAX	907	760	628	590	556	508	499	890	1509			2315
KM												
390							608					
380							606					
370					735		597					
360				754	731		580					
350	1354	1131		754	716	608	555	1016				
340	1351	1130	824	746	688	605	523	1011				2361
330	1328	1112	824	724	649	595	477	989				2361
320	1280	1070	817	686	597	577	421	960	1786			2337
310	1208	1004	797	636	528	550	362	917	1784			2277
300	1121	917	762	573	441	517	295	859	1759			2181
290	980	802	716	502	350	473	224	789	1705			2041
280	780	668	661	417	262	420	155	710	1620			1871
270	555	523	592	341	175	357	93.2	621	1512			1681
260	310	335	508	268	102	286	51.5	526	1359			1470
250	127	161	417	198	64.0	219		428	1202			1255
240	53.8	71.4	310	139	40.2	153		319	1004			1086
230		12.4	179	97.2		97.2		209	794			917
220			83.8	66.8		55.6		120	584			785
210			12.4	46.0		12.4		65.5	435			673
200				12.4				19.9	335			573
190									262			487
180									212			412
170									173			352
160									143			308
150									121			272
140									106			233
130									95.4			197
120									89.6			183
110									83.8			

ELECTRON DENSITY

PUERTO RICO 60 W 9 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	S	S			A	A	A	A	A		S	
HMIN			109	109			209	219	199	216	248	269
SCAT			59.0	62.8			50.9	48.7	72.7	55.6	59.7	51.7
HMAXF			334	333			337	325	355	355	402	396
SHMAX			2437	2305			1414	1228	1279	971	1094	938
KM												
410											1316	
400											1315	
390											1302	1393
380											1270	1389
370										1215	1219	1361
360									1354	1213	1151	1307
350									1353	1193	1064	1227
340			2500	2277			2032		1340	1153	960	1127
330			2498	2275			2023	1907	1314	1096	834	979
320			2467	2252			1978	1901	1276	1014	696	768
310			2401	2199			1891	1860	1223	917	540	540
300			2294	2118			1764	1777	1161	805	379	310
290			2169	2005			1604	1653	1086	679	250	161
280			1986	1868			1404	1490	983	552	157	77.5
270			1786	1700			1143	1280	860	417	97.2	12.4
260			1542	1498			893	1024	716	286	55.6	
250			1297	1281			573	716	573	179	12.4	
240			1096	1096			310	389	426	103		
230			875	899			155	127	262	62.0		
220			716	741			71.4	12.4	137	25.1		
210			608	615			12.4		66.7			
200			515	516					12.4			
190			446	438								
180			396	379								
170			351	331								
160			310	293								
150			273	262								
140			232	230								
130			198	198								
120			187	185								
110			112	112								

ELECTRON DENSITY

PUERTO RICO 60 W 10 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL									B			A
HMIN	249	223	219	230	228	222	218	207	113	111	109	
SCAT	52.2	50.0	40.9	57.3	63.9	59.6	57.3	81.5	52.2	62.7	51.0	
HMAXF	364	339	318	364	362	362	358	381	289	323	325	
SHMAX	1031	954	588	715	717	619	604	1063	1259	1686	1888	
KM												
390								939				
380								939				
370	1528			939	854	774		934				
360	1526			937	854	774	754	923				
350	1501			925	847	766	751	905				
340	1448	1446		898	829	748	736	879				
330	1367	1436		856	800	719	709	844		1669	2096	
320	1262	1396	1050	803	763	679	672	804		1668	2091	
310	1125	1326	1040	727	716	629	623	760		1651	2051	
300	917	1240	998	627	649	560	560	713		1613	1964	
290	665	1105	924	508	566	477	487	660	1640	1555	1850	
280	389	917	823	389	469	374	404	604	1628	1474	1689	
270	179	704	690	262	362	280	320	540	1587	1374	1496	
260	76.9	477	521	168	270	198	240	477	1512	1250	1298	
250	12.4	262	320	91.9	179	127	161	401	1416	1096	1081	
240		97.2	168	49.6	91.8	71.4	97.2	310	1281	953	901	
230		44.4	71.4		23.0	43.0	54.4	198	1096	813	745	
220			12.4				12.4	97.2	888	686	621	
210								40.2	667	581	528	
200									477	493	458	
190									335	417	401	
180									249	356	350	
170									198	300	302	
160									161	249	256	
150									139	207	215	
140									123	175	189	
130									107	148	175	
120									97.8	134	166	
110											127	

ELECTRON DENSITY

PUERTO RICO 60 W 10 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A	A	A		A
HMIN											258	230
SCAT											53.3	50.6
HMAXF											400	367
SHMAX											1223	1225
KM												
410											1640	
400											1640	
390											1624	
380											1580	
370											1501	1771
360											1402	1762
350											1273	1720
340											1115	1643
330											917	1531
320											716	1389
310											508	1202
300											324	960
290											188	679
280											108	417
270											60.0	251
260											12.4	143
250												86.3
240												49.6

ELECTRON DENSITY

PUERTO RICO 60 W 11 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A			A	A	A		B		A		
HMIN	228	219	220	244	247	216	220	199	108	109	108	109
SCAT	63.0	56.1	62.1	54.8	54.2	60.0	52.1	47.4	77.1	55.8	78.1	59.1
HMAXF	350	329	367	376	381	347	327	304	312	314	340	325
SHMAX	1156	816	700	550	624	600	520	664	1322	1725	2104	2237
KM												
390					844							
380				716	844							
370			824	714	836							
360	1446		821	701	814							
350	1446		808	675	776	754					1771	
340	1438		785	638	727	752					1771	
330	1411	1167	750	589	659	739	774		1228	1876	1763	2430
320	1367	1159	705	529	573	716	771		1228	1876	1741	2426
310	1301	1133	650	461	471	679	754	1050	1227	1873	1705	2392
300	1227	1087	582	379	362	636	723	1048	1220	1845	1651	2323
290	1125	1035	502	296	240	580	679	1027	1203	1788	1583	2215
280	989	940	412	207	150	503	619	980	1176	1699	1503	2080
270	835	819	316	127	94.2	424	535	917	1137	1581	1411	1907
260	626	665	219	71.4	56.7	335	433	821	1089	1446	1305	1669
250	401	477	143	40.2	18.4	228	302	707	1032	1255	1175	1418
240	161	251	83.8			127	167	563	952	1070	1039	1125
230	30.0	97.2	49.6			71.4	71.4	389	855	875	908	902
220		12.4				27.6		198	744	728	776	702
210								83.8	629	597	652	564
200								12.4	516	500	540	470
190									408	422	458	405
180									323	357	389	353
170									259	303	330	310
160									210	259	286	268
150									175	222	247	233
140									149	192	215	197
130									130	168	185	177
120									118	151	170	168
110									89.1	97.2	127	143

ELECTRON DENSITY

PUERTO RICO 60 W 11 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL				A		A	A	A	A	A	A	A
HMIN	108	109	109	109	110	110		187	206	227	255	254
SCAT	68.9	52.9	60.6	60.4	68.7	58.5		59.7	65.6	63.6	55.4	53.4
HMAXF	336	322	334	329	334	323		343	391	399	406	386
SHMAX	2602	2250	2361	2178	2039	1505		1083	981	934	786	828
KM												
410											1016	
400									1038	1050	1013	
390									1038	1044	995	1143
380									1030	1025	960	1139
370									1011	993	909	1116
360									979	948	841	1074
350								1240	935	893	748	1012
340	2448		2396		1907			1239	881	818	643	928
330	2443	2500	2393	2310	1905	1612		1225	811	726	518	817
320	2413	2499	2364	2298	1888	1610		1194	731	621	395	679
310	2358	2466	2303	2254	1850	1591		1143	643	508	280	527
300	2276	2389	2209	2178	1792	1546		1077	540	399	187	374
290	2174	2264	2082	2071	1714	1476		994	446	302	124	232
280	2045	2098	1925	1937	1613	1386		898	344	213	82.0	134
270	1877	1887	1731	1759	1496	1274		794	253	147	53.5	74.0
260	1679	1637	1509	1555	1358	1133		689	182	104	22.3	40.2
250	1463	1387	1263	1311	1212	1004		573	133	71.4		
240	1240	1129	1063	1050	1066	864		454	95.1	46.7		
230	990	917	875	834	917	726		335	66.9	12.4		
220	810	739	716	643	754	596		219	46.5			
210	669	608	573	520	608	469		127	16.4			
200	560	521	494	434	483	362		67.9				
190	477	455	432	375	389	279		20.3				
180	417	406	381	327	328	219						
170	372	362	338	282	278	173						
160	335	325	299	240	240	141						
150	301	291	260	209	207	123						
140	265	257	219	189	182	112						
130	232	227	195	175	163	106						
120	209	207	185	166	150	101						
110	143	97.2	83.8	83.8	97.2	60.0						

ELECTRON DENSITY

PUERTO RICO 60 W 12 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A							B	A	A		A
HMIN	240	226	196	187	222	259	323	199	110	105	115	109
SCAT	42.8	58.4	62.7	61.8	56.4	67.6	60.3	47.0	44.2	62.9	70.5	60.7
HMAXF	346	346	322	336	349	424	459	305	289	312	332	324
SHMAX	666	704	568	392	339	284	243	508	1133	1679	1981	1958
KM												
460							286					
450							284					
440							279					
430						292	270					
420						291	256					
410						289	240					
400						283	219					
390						273	193					
380						261	161					
370						245	132					
360						227	106					
350	1119	939			446	205	82.5					
340	1113	936		454	443	181	62.9				1815	
330	1079	921	670	453	433	155	43.1				1815	2000
320	1014	892	670	446	416	129				1786	1802	1998
310	917	850	664	434	394	104			824	1785	1771	1973
300	794	794	649	415	364	81.6			821	1769	1721	1921
290	643	722	624	389	321	63.1			802	1555	1730	1652	1837
280	477	627	593	359	270	48.6			767	1529	1669	1571	1732
270	286	508	554	324	211	37.8			712	1484	1590	1465	1600
260	136	362	508	281	151	30.9			626	1380	1489	1341	1446
250	60.0	219	457	234	97.2				518	1240	1350	1199	1273
240		97.2	397	186	61.7				373	1079	1143	1050	1065
230		40.2	331	139	36.4				240	875	938	902	875
220			249	97.2					127	699	763	754	716
210			154	67.6					66.1	551	619	620	573
200			49.6	46.3					12.4	436	508	523	477
190				12.4						335	417	446	404
180										257	339	377	357
170										203	270	320	321
160										161	212	275	283
150										129	167	237	240
140										108	148	202	201
130										95.2	139	174	178
120										88.2	132	149	168
110										49.6	118		127

ELECTRON DENSITY

PUERTO RICO 60 W 12 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		A	S	A	A	A	A	A	A		A	A
HMIN	114	109							197	258	225	259
SCAT	62.2	67.7							63.1	48.3	53.4	47.1
HMAXF	339	341							370	388	377	363
SHMAX	2285	2710							949	738	830	649
KM												
390										1061		
380									1027	1054	1096	
370									1027	1024	1091	1027
360									1021	969	1067	1026
350		2643							1002	895	1024	1007
340	2294	2643							970	802	964	965
330	2281	2625							923	690	881	901
320	2239	2577							866	565	775	810
310	2168	2501							794	417	658	696
300	2064	2395							716	286	526	558
290	1935	2268							630	172	380	389
280	1776	2102							540	102	255	219
270	1582	1885							446	57.9	169	92.1
260	1378	1620							362	12.4	115	12.4
250	1143	1364							262		78.6	
240	950	1096							185		52.2	
230	794	901							124		22.0	
220	656	737							81.5			
210	540	608							51.8			
200	456	508							17.5			
190	389	432										
180	339	377										
170	292	331										
160	230	276										
150	193	207										
140	178	184										
130	170	174										
120	163	167										
110		143										

ELECTRON DENSITY

PUERTO RICO 60 W 13 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A	A		A	C	C	C			
HMIN	238	208	218	207	348	318				109	109	108
SCAT	54.1	51.2	49.0	61.9	64.6	68.2				73.2	68.8	60.6
HMAXF	377	334	334	379	487	473				325	343	341
SHMAX	702	638	484	504	417	469				1681	2059	2434
KM												
490					477							
480					475	508						
470					469	508						
460					456	503						
450					437	494						
440					414	478						
430					384	459						
420					348	434						
410					306	400						
400					259	358						
390					207	310						
380	928			532	156	262						
370	923			529	103	209						
360	904			519	57.9	153						
350	868			501	12.4	105					1801	2430
340	817	917	726	477		69.4					1799	2430
330	749	916	724	446		45.7				1514	1784	2411
320	664	900	710	411		7.9				1512	1749	2358
310	564	866	681	374						1498	1695	2270
300	446	816	638	335						1470	1615	2161
290	335	748	577	290						1423	1522	2006
280	225	657	498	245						1367	1414	1814
270	143	540	399	201						1295	1294	1594
260	88.7	417	298	161						1209	1162	1341
250	53.3	275	189	123						1115	1038	1143
240	12.4	161	112	90.8						1004	910	942
230		97.2	60.0	65.1						882	794	771
220		56.3	12.4	45.3						762	695	643
210		12.4		12.4						643	608	549
200										534	520	480
190										436	442	427
180										357	375	382
170										295	323	343
160										246	282	306
150										205	246	266
140										175	211	223
130										158	180	196
120										148	165	185
110										97.2	97.2	143

ELECTRON DENSITY

PUERTO RICO 60 W 13 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A				A	A	A	A	A		F	F
HMIN	112	107	109	109						268	261	269
SCAT	51.4	67.4	71.9	68.5						43.9	67.2	49.2
HMAXF	311	331	348	341						385	413	386
SHMAX	2258	2565	2425	2248						687	1057	767
KM												
420											1215	
410											1215	
400											1205	
390										1050	1181	1155
380										1046	1144	1151
370										1020	1096	1125
360										960	1029	1075
350			2096	2032						883	952	1004
340		2430	2089	2032						794	855	908
330		2430	2064	2019						687	730	794
320	2790	2413	2017	1984						563	573	643
310	2790	2369	1951	1928						417	389	446
300	2759	2299	1863	1846						275	248	248
290	2676	2201	1763	1747						150	143	127
280	2538	2081	1631	1629						76.1	76.4	66.0
270	2356	1926	1480	1488						20.7	45.4	12.4
260	2105	1742	1316	1328								
250	1786	1545	1143	1175								
240	1422	1341	971	1004								
230	1050	1116	834	848								
220	794	917	716	716								
210	591	746	614	608								
200	485	608	535	516								
190	417	516	473	443								
180	375	440	424	385								
170	343	383	380	335								
160	313	339	340	298								
150	280	297	302	262								
140	244	258	264	234								
130	216	227	229	208								
120	201	208	204	188								
110		161	82.8	83.8								

ELECTRON DENSITY

PUERTO RICO 60 W 14 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A		A			B	A			
HMIN	220	209	189	268	277	350	275		109	108	109	110
SCAT	43.1	50.6	58.4	68.7	67.9	71.7	86.6		58.9	72.0	60.2	64.8
HMAXF	325	322	302	415	436	475	442		295	312	323	342
SHMAX	707	740	433	437	460	394	571		1185	1520	1795	2194
KM												
480						439						
470						439						
460						434						
450						426	524					
440					492	413	524					
430					491	397	522					
420				469	485	377	516					
410				468	474	351	507					
400				464	457	317	494					
390				454	435	275	477					
380				438	409	227	459					
370				420	376	171	438					
360				396	335	107	411					
350				365	289	12.4	374					2048
340				328	240		328					2047
330	1240	1107		286	188		275				1786	2031
320	1236	1107		240	143		219			1446	1795	1990
310	1203	1088	599	194	97.2		157			1446	1766	1925
300	1137	1051	599	150	69.7		104		1341	1436	1722	1831
290	1039	993	593	102	47.0		62.0		1338	1413	1651	1718
280	889	917	578	57.4	12.4		30.0		1318	1375	1555	1582
270	694	810	553	12.4					1279	1320	1439	1427
260	461	679	523						1220	1249	1304	1258
250	240	508	480						1153	1175	1143	1096
240	117	297	417						1050	1085	1004	917
230	60.0	152	328						906	960	849	773
220		71.4	219						754	834	716	643
210		12.4	127						608	687	597	553
200			65.2						477	555	501	486
190			12.4						372	446	429	432
180									296	354	376	384
170									240	294	333	335
160									196	247	294	295
150									163	208	255	256
140									139	177	214	219
130									125	158	182	191
120									117	149	169	175
110									83.8	112	127	12.4

ELECTRON DENSITY

PUERTO RICO 60 W 14 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			S			A	B				A	A
HMIN	115	111		110	109	109		200	216	230	278	269
SCAT	54.0	55.9		66.2	74.1	68.3		67.0	61.2	65.4	57.2	61.1
HMAXF	334	328		348	351	344		356	363	379	405	406
SHMAX	2280	2211		2469	2342	1866		1401	1174	1062	952	1052
KM												
410											1265	1328
400											1262	1326
390											1242	1307
380										1252	1196	1270
370									1420	1247	1150	1213
360					2048			1583	1419	1220	1067	1143
350				2260	2047	1786		1580	1403	1184	960	1050
340	2430			2251	2036	1784		1561	1368	1148	823	917
330	2427	2310		2217	2006	1764		1514	1313	1081	679	766
320	2389	2299		2156	1957	1722		1464	1250	991	508	593
310	2310	2252		2069	1888	1656		1397	1156	875	323	389
300	2187	2168		1960	1803	1567		1311	1033	743	171	247
290	2032	2044		1821	1701	1458		1196	892	608	83.8	127
280	1821	1886		1669	1576	1332		1050	730	446	23.0	65.2
270	1588	1701		1487	1421	1200		888	560	286		12.4
260	1341	1495		1308	1250	1066		716	389	179		
250	1124	1285		1143	1069	917		508	240	97.2		
240	917	1081		969	904	780		326	134	52.1		
230	762	904		813	754	658		189	71.4			
220	643	754		679	634	548		102	27.5			
210	567	625		579	533	456		52.8				
200	508	524		495	455	378						
190	451	446		427	393	315						
180	395	393		370	344	262						
170	346	348		322	303	219						
160	308	313		283	268	186						
150	279	286		255	238	159						
140	246	254		233	211	138						
130	215	219		210	186	124						
120	179	198		185	168	116						
110				49.6	97.2	60.0						

ELECTRON DENSITY

PUERTO RICO 60 W 15 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL	A	A	A							C	A	
HMIN	259	214	223	240	270	231	219	110	111		109	110
SCAT	44.4	54.3	57.7	56.5	57.0	61.4	62.2	74.8	85.0		65.1	60.7
HMAXF	358	327	349	386	419	365	336	316	345		335	347
SHMAX	715	768	578	602	606	711	715	1063	1544		2109	2544
KM												
420					754							
410					750							
400					734							
390				764	706							
380				762	668							
370				749	618	875						
360	1215			724	552	873						
350	1207		754	686	477	861			1215			2448
340	1168		750	637	389	838	960		1214		2000	2440
330	1103	1131	735	573	310	803	958		1206		1996	2382
320	997	1127	707	497	225	759	945	1084	1190		1972	2309
310	851	1105	670	407	153	699	920	1082	1165		1923	2208
300	679	1068	621	310	101	621	884	1072	1131		1845	2076
290	477	1011	556	226	65.6	526	837	1052	1090		1754	1915
280	251	917	477	154	42.2	417	761	1026	1039		1638	1726
270	97.2	780	381	102		310	651	995	982		1493	1526
260	12.4	623	286	67.3		198	508	938	917		1341	1326
250		446	179	43.0		112	335	855	843		1154	1111
240		262	97.2			56.6	189	754	766		989	938
230		122	49.6				83.8	643	689		834	794
220		49.6					12.4	515	614		700	679
210								389	535		590	578
200								286	454		502	504
190								213	374		427	444
180								161	300		369	394
170								127	240		321	350
160								104	191		280	310
150								88.5	158		243	275
140								80.7	137		204	240
130								75.9	123		177	213
120								69.2	113		164	189
110								40.2			112	12.4

ELECTRON DENSITY

PUERTO RICO 60 W 15 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL			S	S	S		A			A	A	A
HMIN	110	110		110	111	110		203	233	248	248	245
SCAT	74.3	63.7		64.2	67.4	70.5		64.5	56.3	54.3	63.4	50.6
HMAXF	344	345		341	344	345		361	377	376	380	361
SHMAX	2763	2576		2412	2282	2108		1318	1053	1057	1155	880
KM												
390											1446	
380									1341	1460	1446	
370								1500	1336	1455	1436	1316
360								1500	1312	1417	1409	1315
350	2500	2430		2310	2128	1937		1489	1266	1365	1363	1299
340	2499	2426		2310	2126	1935		1460	1196	1294	1297	1256
330	2479	2396		2294	2105	1917		1408	1112	1196	1222	1187
320	2436	2335		2233	2060	1867		1352	997	1058	1120	1096
310	2370	2240		2172	1988	1809		1265	857	875	969	960
300	2304	2124		2072	1907	1732		1161	716	679	780	803
290	2190	1974		1943	1786	1638		1037	563	487	559	608
280	2032	1786		1786	1648	1531		893	417	310	335	389
270	1854	1599		1604	1491	1404		733	271	161	161	207
260	1639	1398		1405	1320	1257		562	151	77.0	80.2	93.4
250	1411	1184		1206	1151	1110		389	83.8	21.2	21.7	43.1
240	1169	981		1024	977	944		232	43.1			
230	960	819		853	815	782		140				
220	778	690		710	679	643		79.7				
210	643	593		588	556	522		42.9				
200	540	521		493	460	417						
190	469	463		422	389	339						
180	411	414		368	327	279						
170	365	370		325	279	231						
160	326	329		288	240	194						
150	290	291		257	210	164						
140	254	255		229	181	142						
130	220	224		204	160	126						
120	204	206		186	149	116						
110	60.0	83.8		83.8		60.0						

ELECTRON DENSITY

PUERTO RICO 60 W 16 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL	A	A	A	A	A	A	A	B		A	S	S
HMIN	256	232	221	211	208	208	257		109		109	110
SCAT	46.4	40.0	50.0	50.1	51.8	70.8	57.4		49.5		60.2	60.6
HMAXF	351	327	319	308	339	353	371		287		327	334
SHMAX	804	668	669	455	440	425	357		1160		1828	2132
KM												
380							477					
370							477					
360	1341					469	472					
350	1341					469	460					
340	1322				599	465	440					2128
330	1271	1240			595	457	415				1786	2126
320	1187	1230	1096		579	443	381				1780	2100
310	1078	1182	1086	707	552	428	335				1751	2045
300	917	1096	1055	702	516	408	282				1698	1956
290	716	960	1004	684	466	379	219		1528		1610	1847
280	477	794	926	650	404	338	152		1519		1504	1706
270	219	573	810	604	335	286	80.6		1481		1384	1532
260	49.6	335	643	540	262	232	29.1		1409		1251	1341
250		143	417	458	198	175			1319		1096	1143
240		60.0	198	354	127	122			1183		960	949
230			71.4	340	80.4	79.2			1004		834	783
220				83.8	49.6	49.6			794		703	656
210					12.4	12.4			591		594	560
200									437		504	488
190									330		433	431
180									262		374	384
170									211		325	340
160									174		286	298
150									143		247	259
140									124		214	222
130									110		186	195
120									102		169	181
110									71.4		112	12.4

ELECTRON DENSITY

PUERTO RICO 60 W 16 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL	S	S	A	S	S		A	A		A		
HMIN	109	108		110	109	110	105	198	240	211	239	228
SCAT	65.1	72.0		61.0	65.0	72.0	78.9	69.2	62.8	55.1	52.4	66.5
HMAXF	346	371		345	339	349	372	372	380	356	369	370
SHMAX	2225	2853		2697	2481	2259	2045	1527	1372	1172	1120	1140
KM												
390									1683			
380		2448					1741	1626	1683			1354
370		2448					1741	1625	1672		1569	1354
360		2434					1730	1614	1630	1528	1559	1346
350	2000	2384		2716		2032	1706	1586	1586	1523	1520	1315
340	1996	2330		2711	2413	2023	1669	1538	1536	1495	1453	1278
330	1969	2259		2673	2401	1996	1614	1477	1430	1441	1355	1240
320	1920	2145		2598	2360	1948	1560	1402	1287	1362	1240	1168
310	1836	2006		2482	2294	1878	1473	1304	1121	1258	1075	1074
300	1737	1831		2338	2189	1796	1374	1186	917	1131	875	949
290	1621	1622		2161	2064	1689	1263	1050	700	977	679	794
280	1489	1404		1924	1907	1562	1160	890	477	794	446	630
270	1341	1213		1669	1727	1420	1034	716	286	608	262	446
260	1185	1050		1427	1521	1264	895	529	143	417	127	262
250	1021	896		1193	1307	1121	754	362	66.5	246	60.0	127
240	875	766		974	1116	960	627	225		143	4.5	60.0
230	743	661		794	917	804	508	143		83.8		12.4
220	636	581		649	754	664	398	89.2		47.5		
210	553	523		545	608	540	310	53.1				
200	490	477		469	499	435	240	12.4				
190	442	439		410	412	350	179					
180	405	399		362	346	281	140					
170	370	357		321	295	231	110					
160	333	317		286	254	193	90.5					
150	293	274		250	219	165	78.4					
140	252	233		219	189	143	70.6					
130	219	204		197	166	127	67.1					
120	204	188		182	151	116	63.7					
110	143	143		12.4	97.2	12.4	60.2					

ELECTRON DENSITY

PUERTO RICO 60 W 17 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL			A	A	A	A						
HMIN	246	229	199	199	195	246	278	107	109	108	107	108
SCAT	46.5	40.7	70.6	46.3	52.1	65.5	49.4	52.9	54.9	47.9	50.0	61.5
HMAXF	363	326	362	322	327	400	399	308	306	299	305	329
SHMAX	972	744	974	618	519	439	375	910	1393	1574	1736	2074
KM												
410						477						
400						477	540					
390						474	536					
380						465	520					
370	1528		960			452	493					
360	1526		960			431	456					
350	1499		954			407	407					
340	1434		937			375	347					
330	1341	1367	910	917	697	339	278					2032
320	1206	1361	872	917	694	295	207					2021
310	1029	1307	827	902	679	249	139	1143	1683		2032	1985
300	815	1226	778	863	650	203	83.8	1135	1678	1907	2026	1921
290	573	1106	725	805	611	161	52.1	1108	1637	1890	1984	1829
280	345	917	663	729	556	123	12.4	1061	1582	1833	1900	1714
270	169	700	592	643	488	91.0		994	1503	1727	1770	1568
260	79.4	446	515	540	412	60.0		897	1388	1587	1609	1388
250	40.2	198	432	426	335	24.1		775	1240	1412	1419	1204
240		76.1	349	299	257			643	1036	1221	1213	1031
230		12.4	262	179	179			508	851	1050	993	875
220			179	101	112			389	664	859	805	733
210			83.8	53.9	64.8			276	508	696	653	619
200			12.4	5.8	31.4			198	389	561	540	534
190								146	290	452	453	471
180								112	219	370	389	417
170								90.6	172	310	335	368
160								77.7	141	262	290	321
150								70.3	120	219	251	279
140								67.4	109	183	213	240
130								64.6	105	158	179	198
120								61.7	100	145	166	183
110								40.2	71.4	103	136	127

ELECTRON DENSITY

PUERTO RICO 60 W 17 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			S									
HMIN	111	110	110	110	110	109	228	210	206	211	231	249
SCAT	59.1	52.2	54.6	51.1	61.2	60.0	55.2	58.8	55.0	70.3	54.0	48.5
HMAXF	337	329	340	338	341	339	347	353	347	385	363	386
SHMAX	2109	2033	2063	2069	2124	1857	1346	1442	1175	1341	1087	821
KM												
390										1393		1143
380										1392		1139
370										1378	1500	1113
360								1756		1350	1499	1060
350			2161		2096		1786	1754	1569	1300	1479	986
340	2016		2161	2177	2096	1846	1777	1733	1564	1246	1427	895
330	2009	2144	2143	2164	2080	1834	1741	1686	1521	1176	1353	794
320	1975	2128	2090	2086	2037	1797	1675	1606	1464	1096	1258	679
310	1912	2073	1995	1990	1953	1720	1577	1510	1388	995	1143	540
300	1812	1970	1867	1865	1855	1629	1446	1390	1287	875	973	380
290	1689	1834	1709	1711	1733	1540	1402	1247	1152	747	783	253
280	1555	1669	1527	1536	1591	1397	1143	1074	975	608	573	161
270	1397	1498	1331	1341	1429	1257	946	893	768	466	362	90.4
260	1240	1308	1110	1153	1252	1122	716	706	573	326	179	52.8
250	1061	1096	927	960	1050	974	477	508	389	209	93.6	6.1
240	917	907	772	802	875	834	198	323	219	127	49.6	
230	794	754	643	671	726	689	40.2	168	119	77.9		
220	689	635	552	566	595	557		68.0	66.7	44.9		
210	603	549	481	489	493	454			26.8			
200	532	484	421	433	417	375						
190	471	436	369	389	362	310						
180	417	397	327	354	318	262						
170	370	362	292	323	280	224						
160	326	326	249	294	247	192						
150	283	292	209	262	219	166						
140	246	259	186	229	191	143						
130	215	224	173	202	173	126						
120	191	204	164	186	162	117						
110		49.6	49.6	97.2	49.6	49.6						

ELECTRON DENSITY

PUERTO RICO 60 W 18 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL										H		
HMIN	269	240	211	208	259	271	229	108	108	107	109	108
SCAT	46.9	57.4	47.3	56.2	52.1	58.6	65.1	54.4	63.1	51.2	79.5	65.0
HMAXF	396	363	308	347	385	421	390	305	313	294	353	341
SHMAX	891	1042	709	613	477	487	600	898	1236	1132	2299	2009
KM												
430						573						
420						573						
410						569						
400	1341					556	661					
390	1337				652	534	661					
380	1304				650	505	657					
370	1240	1420			638	466	645					
360	1151	1419			614	421	626				1786	
350	1025	1402		784	577	369	598				1785	1815
340	875	1363		780	529	314	564				1775	1815
330	698	1300		765	468	257	520				1750	1802
320	498	1227		736	396	198	469		1240		1711	1766
310	335	1121	1167	698	316	148	410	1050	1239		1656	1710
300	198	960	1158	643	240	103	344	1047	1226	1341	1584	1628
290	112	776	1123	573	161	66.2	271	1029	1198	1339	1502	1530
280	56.9	555	1062	495	97.2	40.2	205	992	1154	1316	1409	1410
270	4.9	335	975	404	55.6		143	938	1096	1268	1307	1270
260		169	855	310	5.5		97.2	869	1019	1190	1198	1143
250		75.1	698	226			66.4	777	917	1096	1087	992
240			492	155			43.8	664	812	969	978	851
230			240	92.6			3.3	547	698	816	875	723
220			83.8	54.9				440	591	643	769	613
210				12.4				353	497	508	679	531
200								292	421	417	596	470
190								245	355	362	522	423
180								202	298	310	456	385
170								148	247	269	396	351
160								109	198	231	342	317
150								81.2	166	196	297	280
140								69.9	139	156	258	242
130								66.1	122	139	217	214
120								62.3	110	131	203	188
110								51.1	90.7	112	143	143

ELECTRON DENSITY

PUERTO RICO 60 W 18 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			S	A	A	A	A	A	A			
HMIN	109	112	110	108	109		229	209	210	256	249	266
SCAT	56.5	71.4	72.6	60.8	60.8		68.6	68.7	63.7	59.2	57.1	62.3
HMAXF	333	344	355	341	330		366	361	376	397	391	409
SHMAX	1996	2105	2117	1725	1611		1349	1173	1012	934	840	902
KM												
410												1096
400										1143	1050	1090
390										1139	1049	1070
380									1096	1120	1040	1036
370							1393	1316	1093	1085	1015	986
360			1771				1391	1315	1078	1033	971	925
350		1786	1768	1612			1375	1308	1050	966	917	847
340	1969	1784	1751	1611	1569		1345	1286	1008	880	841	745
330	1967	1768	1717	1597	1569		1300	1250	953	774	754	622
320	1941	1734	1669	1562	1559		1240	1197	883	658	652	477
310	1878	1683	1596	1497	1528		1167	1143	802	533	540	335
300	1791	1613	1516	1423	1475		1078	1060	716	400	417	209
290	1669	1533	1414	1321	1399		960	949	624	275	297	127
280	1531	1422	1294	1208	1309		834	816	525	175	198	67.0
270	1376	1305	1151	1088	1193		679	679	426	91.6	103	26.8
260	1202	1180	1016	951	1059		520	525	325	40.2	56.0	
250	1028	1050	886	816	927		362	371	230		5.2	
240	875	917	767	696	794		161	226	143			
230	754	801	662	594	673		12.4	117	83.8			
220	648	694	573	508	573			60.0	49.6			
210	564	599	508	446	481			4.5				
200	496	518	457	396	413							
190	443	453	412	357	358							
180	398	404	374	323	312							
170	358	366	338	289	273							
160	322	333	301	252	235							
150	286	300	260	224	205							
140	252	265	227	205	185							
130	219	235	211	193	173							
120	204	206	200	184	164							
110	127		40.2	112	97.2							

ELECTRON DENSITY

PUERTO RICO 60 W 19 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL				A				S		A	A	A
HMIN	256	233	228	253	241	228	229		109			
SCAT	54•3	51•7	59•6	58•7	54•2	56•1	56•9		57•3			
HMAXF	375	350	368	377	365	343	340		291			
SHMAX	767	681	646	656	568	532	520		1222			
KM												
380	1072			844								
370	1070		794	841	774							
360	1053	982	790	827	772							
350	1017	982	775	800	758	754	716					
340	960	972	749	762	731	754	716					
330	890	944	716	711	690	743	711					
320	794	896	665	643	639	720	694					
310	671	834	601	562	569	686	666					
300	527	747	526	470	485	638	628		1446			
290	362	636	446	362	389	573	580		1446			
280	208	508	351	253	286	477	513		1433			
270	97•3	362	262	127	179	369	426		1398			
260	40•2	219	179	53•8	97•2	262	310		1341			
250		105	97•2		49•6	143	198		1262			
240		49•6	55•5			52•9	97•0		1165			
230			12•4			12•4	12•4		1024			
220									824			
210									662			
200									508			
190									382			
180									301			
170									240			
160									201			
150									170			
140									146			
130									126			
120									117			
110									71•4			

ELECTRON DENSITY

PUERTO RICO 60 W 19 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL	A	A	A	A	A	A	A					
HMIN				113	110		240	205	239	234	236	249
SCAT				71•8	66•7		56•9	56•6	80•9	58•0	50•0	49•8
HMAXF				358	356		339	339	411	379	361	363
SHMAX				2208	2010		1175	1032	1501	1221	1068	1005
KM												
420									1446			
410									1446			
400									1440			
390									1422			
380									1394	1555		
370									1354	1546	1569	1473
360				1907	1876				1299	1514	1569	1472
350				1901	1872				1240	1459	1551	1447
340				1878	1849		1669	1290	1169	1378	1501	1392
330				1836	1804		1658	1281	1083	1280	1416	1303
320				1774	1736		1623	1253	970	1155	1307	1190
310				1697	1659		1562	1204	834	989	1162	1050
300				1601	1555		1476	1135	679	794	960	875
290				1483	1414		1368	1050	508	592	736	679
280				1341	1259		1221	937	354	408	508	477
270				1201	1119		1038	811	219	262	321	273
260				1050	940		794	679	120	137	161	112
250				891	772		362	555	57•7	74•8	83•8	12•4
240				754	625		12•4	417	4•9	40•2	40•2	
230				627	516			262				
220				531	439			143				
210				466	383			49•6				
200				417	338							
190				379	297							
180				343	256							
170				310	219							
160				275	191							
150				240	173							
140				210	160							
130				191	153							
120				172	146							
110					12•4							

ELECTRON DENSITY

PUERTO RICO 60 W 20 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL	S							B		B	A	A
HMIN	225	240	229	218	236	219	208		110	107		
SCAT	48•2	57•8	42•7	52•5	57•1	50•5	58•1		66•8	68•9		
HMAXF	344	367	328	342	368	338	331		309	313		
SHMAX	873	1014	656	681	670	586	600		1367	1619		
KM												
370		1354			875							
360		1350			870							
350	1341	1326		949	852							
340	1339	1282		949	820	854	804					
330	1313	1216	1167	938	776	849	803					
320	1258	1143	1156	909	716	828	796			1528		
310	1174	1024	1114	862	643	790	776		1393	1527		
300	1061	875	1040	800	545	737	744		1387	1515		
290	917	690	932	716	438	664	702		1365	1487		
280	716	489	772	616	318	579	646		1327	1442		
270	523	296	573	501	211	470	573		1274	1382		
260	310	143	335	369	127	335	477		1205	1305		
250	143	64•0	170	240	68•6	205	362		1126	1216		
240	73•9		71•4	127	26•8	112	219		1019	1104		
230	34•0		12•4	60•0		56•4	119		889	979		
220				12•4		5•3	60•0		741	834		
210							12•4		595	691		
200									469	573		
190									371	484		
180									294	411		
170									240	351		
160									203	300		
150									174	256		
140									147	219		
130									126	193		
120									116	174		
110									40•2	155		

ELECTRON DENSITY

PUERTO RICO 60 W 20 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL	A	A	S			A	A					S
HMIN		111	112	109	110		226	209	218	257	249	239
SCAT		64•9	62•7	64•0	63•6		48•8	67•3	64•2	53•9	52•4	47•1
HMAXF		343	347	351	341		336	354	395	398	377	363
SHMAX		2159	2158	2240	1999		1164	1401	1292	1135	1094	997
KM												
400									1393	1500		
390									1392	1491		
380									1376	1457	1528	
370									1343	1397	1520	1514
360				2048				1569	1293	1306	1486	1513
350		1984	2032	2047	1922			1568	1225	1193	1420	1486
340		1983	2026	2033	1922		1786	1553	1147	1062	1333	1426
330		1963	1996	1994	1907		1779	1521	1041	902	1212	1330
320		1920	1940	1929	1869		1737	1472	917	728	1070	1199
310		1853	1853	1836	1806		1656	1400	794	556	887	1050
300		1759	1747	1722	1720		1539	1316	668	352	679	860
290		1641	1614	1584	1614		1386	1215	540	206	477	643
280		1508	1463	1432	1476		1198	1096	417	116	277	417
270		1354	1289	1267	1324		960	960	310	64•5	134	219
260		1180	1096	1096	1143		679	794	219	19•9	66•1	112
250		1004	917	944	975		335	608	143		12•4	60•0
240		851	778	802	813		143	406	87•5			4•5
230		723	655	679	679		45•6	198	53•8			
220		618	560	582	568			83•8	12•4			
210		540	491	508	481			12•4				
200		481	442	451	417							
190		438	406	406	362							
180		402	376	366	321							
170		369	346	328	282							
160		335	312	291	249							
150		294	278	258	215							
140		247	240	227	188							
130		215	213	200	174							
120		201	198	186	165							
110				112	49•6							

ELECTRON DENSITY

PUERTO RICO 60 W 21 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		S								A	A	A
HMIN	238	231	227	225	218	218	206	115	107			
SCAT	48.4	51.1	54.5	57.3	57.7	68.5	56.7	69.4	60.0			
HMAXF	346	343	338	339	351	362	337	312	304			
SHMAX	896	859	701	603	567	612	513	999	1321			
KM												
370						697						
360					726	697						
350	1420	1290			726	692						
340	1415	1289	1004	844	719	679	679					
330	1382	1270	999	838	701	658	677					
320	1319	1226	977	820	672	631	664	1027				
310	1226	1158	938	788	634	602	641	1027	1446			
300	1106	1065	883	747	583	555	611	1019	1444			
290	935	938	810	687	520	489	566	1000	1425			
280	716	777	716	598	446	407	508	971	1387			
270	417	573	573	477	357	323	428	932	1326			
260	208	362	417	355	262	240	341	884	1251			
250	88.8	161	250	207	165	161	240	816	1153			
240	23.7	64.1	112	97.2	91.3	92.8	154	730	1018			
230			40.2	43.6	53.5	54.5	97.2	630	853			
220					12.6	12.4	60.0	518	693			
210							24.6	411	540			
200								310	436			
190								233	356			
180								179	295			
170								143	246			
160								116	207			
150								97.2	177			
140								85.9	155			
130								78.3	137			
120								71.4	121			
110									97.2			

ELECTRON DENSITY

PUERTO RICO 60 W 21 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A		A	A					
HMIN	111		112	115	110		225	228	237	230	248	251
SCAT	73.8		66.1	59.4	72.5		63.7	54.2	61.7	61.6	58.4	59.3
HMAXF	362		353	343	363		366	356	380	382	381	383
SHMAX	2349		2336	2111	2382		1485	1240	1392	1280	1304	1201
KM												
390									1683	1514	1683	1555
380									1683	1514	1683	1554
370	1922				2048		1756		1673	1500	1668	1535
360	1922		2128		2047		1752	1697	1640	1467	1629	1495
350	1910		2127	2048	2032		1727	1693	1585	1414	1566	1430
340	1881		2109	2046	1998		1681	1661	1504	1341	1478	1352
330	1834		2066	2021	1944		1608	1601	1407	1247	1366	1248
320	1767		1992	1968	1867		1523	1509	1288	1134	1224	1105
310	1688		1907	1882	1779		1412	1394	1143	1004	1050	917
300	1590		1786	1772	1669		1278	1240	970	834	818	679
290	1470		1651	1630	1534		1125	1080	766	661	608	477
280	1341		1488	1472	1390		943	875	555	497	384	262
270	1182		1311	1307	1240		716	595	335	335	179	127
260	1036		1124	1143	1096		477	335	161	198	78.4	56.6
250	901		960	985	935		219	179	79.7	105	21.7	
240	778		810	834	794		112	74.8	29.1	53.0		
230	679		679	702	668		47.1	21.2				
220	596		573	592	563							
210	532		499	508	477							
200	480		441	443	408							
190	437		396	389	354							
180	399		362	347	310							
170	364		333	310	270							
160	329		310	274	236							
150	295		286	243	206							
140	260		252	216	176							
130	225		219	196	157							
120	204		198	161	147							
110					12.4							

ELECTRON DENSITY

PUERTO RICO 60 W 22 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL								S				
HMIN	235	223	218	231	250	227	252		109	110	110	109
SCAT	48.1	43.0	57.3	58.1	49.8	60.9	47.7		56.0	79.0	61.5	69.4
HMAXF	352	337	355	370	364	363	356		298	333	328	360
SHMAX	1034	811	871	793	650	721	621		1318	1718	1728	2411
KM												
380				1016								
370				1016	971	906						2063
360	1583		1119	1008	970	906	982					2063
350	1583		1117	985	952	896	978					2053
340	1560	1341	1101	947	917	874	954			1446		2020
330	1503	1332	1068	896	859	840	907			1446	1669	1967
320	1410	1287	1017	827	781	797	840			1436	1662	1889
310	1288	1202	950	736	679	736	754			1415	1633	1795
300	1124	1088	862	629	556	657	634		1555	1382	1583	1678
290	917	939	754	508	417	554	477		1547	1338	1505	1536
280	694	754	631	371	262	446	310		1514	1278	1411	1376
270	446	540	492	240	127	310	161		1456	1212	1296	1209
260	219	345	353	143	64.9	198	63.8		1377	1137	1163	1050
250	83.8	188	219	81.1		105			1280	1044	1028	909
240	42.9	91.5	116	46.8		57.4			1132	939	886	794
230		48.1	60.0			18.1			960	834	744	694
220			12.4						794	725	618	608
210									632	618	521	540
200									467	521	454	481
190									344	436	407	431
180									262	365	369	389
170									202	305	333	348
160									161	258	296	312
150									137	219	258	274
140									116	183	221	234
130									107	162	183	202
120									101	145	166	186
110									71.4	49.6	49.6	112

ELECTRON DENSITY

PUERTO RICO 60 W 22 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL							A	A				
HMIN	110	110	111	109	110	112		209	207	238	258	249
SCAT	56.0	58.2	66.6	65.7	64.5	67.8		57.9	52.6	46.7	56.8	53.6
HMAXF	336	342	353	346	341	342		343	357	375	391	377
SHMAX	2257	2398	2528	2401	2236	2055		1156	984	855	1059	894
KM												
400											1406	
390											1406	
380										1240	1394	1252
370										1236	1360	1247
360			2361						1252	1207	1305	1221
350		2430	2361	2243	2161	1969		1460	1246	1150	1227	1173
340	2310	2429	2340	2238	2160	1968		1459	1218	1062	1132	1104
330	2303	2403	2294	2208	2145	1952		1440	1167	953	1004	1012
320	2262	2341	2220	2152	2103	1915		1400	1096	823	834	887
310	2184	2238	2119	2071	2032	1857		1341	998	679	643	733
300	2065	2109	1999	1960	1937	1776		1249	891	516	436	540
290	1918	1939	1841	1826	1821	1676		1143	775	362	273	362
280	1733	1726	1656	1669	1669	1555		1022	643	240	133	219
270	1534	1493	1446	1490	1502	1411		875	518	152	65.1	112
260	1322	1257	1228	1294	1315	1261		716	380	91.3	12.4	60.0
250	1143	1023	1050	1107	1113	1117		540	262	52.5		4.5
240	951	834	858	917	929	934		335	166	12.4		
230	785	697	700	764	768	745		169	100			
220	655	593	582	643	632	590		75.8	58.3			
210	558	519	496	545	525	461		12.4	18.7			
200	477	467	437	472	443	362						
190	423	427	392	417	383	295						
180	380	394	352	367	335	248						
170	343	362	316	321	294	213						
160	307	329	286	278	258	186						
150	269	296	251	248	224	164						
140	229	260	213	223	201	140						
130	198	225	193	200	180	124						
120	186	203	182	187	166	115						
110	60.0	60.0		127	83.8							

ELECTRON DENSITY

PUERTO RICO 60 W 23 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A		A					A		A	
HMIN	238	244	220	210	198	204	198	111		110	109	112
SCAT	45.6	48.0	48.3	59.4	57.1	51.6	69.7	62.1		62.3	59.2	61.8
HMAXF	352	360	333	343	334	321	350	296		328	326	345
SHMAX	747	731	651	655	563	408	490	753		1731	1935	2349
KM												
370		1119										
360	1191	1119					532					
350	1190	1106		824			532					2294
340	1169	1069	1016	823	726		529					2290
330	1119	1004	1015	814	725	599	521			1683	1907	2260
320	1043	917	999	793	714	599	507			1676	1902	2200
310	933	807	960	760	693	592	489			1649	1873	2105
300	794	679	900	716	660	573	467	854		1599	1816	1987
290	624	508	818	660	618	547	434	852		1526	1727	1838
280	446	335	700	589	560	508	389	840		1438	1617	1651
270	262	179	556	500	486	446	339	817		1319	1481	1446
260	127	83.8	389	399	397	369	286	783		1194	1331	1240
250	65.0	40.2	231	296	310	280	225	738		1062	1180	1050
240	12.4		117	198	219	186	169	679		917	1029	875
230			60.0	103	148	112	118	608		782	885	728
220				52.6	88.5	66.7	78.2	508		660	747	608
210					52.9	40.7	49.6	389		555	630	525
200					12.4		12.4	291		464	532	462
190								212		390	456	412
180								163		335	393	369
170								131		286	342	329
160								108		243	300	290
150								91.4		207	262	250
140								81.8		179	231	213
130								76.7		160	202	193
120								71.4		148	185	182
110										49.6	112	

ELECTRON DENSITY

PUERTO RICO 60 W 23 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL							S					F
HMIN	117	109	109	108	109	110	110	224	247	312	289	298
SCAT	63.3	56.0	60.9	64.7	64.2	64.5	67.6	69.5	58.8	53.6	52.4	48.4
HMAXF	348	330	337	348	344	341	361	390	396	434	409	419
SHMAX	2585	2343	2366	2432	2292	2067	1867	1689	1572	1862	1795	1704
KM												
440										2571		
430										2567		
420										2526		2536
410										2439	2571	2515
400								1786	1937	2308	2550	2442
390								1786	1932	2132	2483	2314
380								1776	1901	1907	2368	2133
370							1786	1748	1842	1632	2206	1907
360							1785	1702	1752	1341	2001	1612
350	2536			2294	2227	2032	1773	1633	1642	960	1725	1281
340	2525	2536	2361	2285	2224	2031	1742	1555	1497	608	1383	936
330	2484	2536	2354	2251	2200	2016	1691	1446	1321	310	1029	573
320	2411	2515	2317	2189	2148	1975	1615	1332	1120	83.8	643	286
310	2306	2453	2248	2095	2069	1911	1527	1195	902		286	112
300	2176	2343	2145	1982	1962	1816	1419	1040	679		112	26.8
290	2008	2206	2009	1837	1832	1703	1290	859	435		12.4	
280	1786	2032	1846	1669	1669	1569	1160	660	262			
270	1555	1786	1653	1470	1485	1413	1004	477	136			
260	1319	1529	1430	1270	1286	1240	857	294	68.3			
250	1073	1273	1196	1071	1096	1096	716	161	19.9			
240	875	1017	974	886	905	917	583	80.3				
230	716	794	807	734	735	754	466	40.2				
220	590	643	668	608	596	599	372					
210	504	533	564	520	494	465	290					
200	446	465	491	455	417	362	224					
190	403	417	437	404	362	298	175					
180	369	382	394	362	318	252	140					
170	338	352	355	328	281	215	114					
160	306	322	320	297	245	185	94.4					
150	273	289	283	269	213	158	80.5					
140	240	253	250	237	187	135	70.8					
130	215	223	224	205	162	123	66.7					
120	179	206	207	186	150	116	62.6					
110		127	83.8	127	83.8	60.0	49.6					

ELECTRON DENSITY

PUERTO RICO 60 W 24 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A	F	A	A	A	A	A			A
HMIN	258	259	219	198		276				109	108	
SCAT	58.5	61.1	49.7	64.7		49.9				60.5	55.5	
HMAXF	403	406	339	375		397				331	314	
SHMAX	1654	1768	1400	1151		646				1996	1781	
KM												
410	2032	2161										
400	2031	2156				917						
390	2008	2126				913						
380	1956	2066		1191		891						
370	1868	1975		1189		847						
360	1753	1862		1175		790						
350	1616	1714		1146		716						
340	1446	1537	2032	1104		629				2048		
330	1260	1323	2014	1050		526				2047		
320	1050	1050	1955	975		399				2032	1969	
310	812	794	1851	892		278				1989	1966	
300	573	508	1716	801		179				1917	1938	
290	362	262	1531	708		88.6				1816	1867	
280	187	127	1305	613		40.3				1691	1770	
270	83.8	65.6	1050	508						1535	1653	
260	23.0	12.4	794	417						1353	1505	
250			508	330						1156	1327	
240			276	240						960	1143	
230			112	161						794	934	
220			12.4	102						643	754	
210				64.7						520	587	
200				21.2						434	472	
190										373	397	
180										323	343	
170										282	300	
160										244	260	
150										211	224	
140										181	191	
130										158	166	
120										144	153	
110										112	127	

ELECTRON DENSITY

PUERTO RICO 60 W 24 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL				A	A	A	A	A	A	A		
HMIN	113	110	109							218	284	228
SCAT	67.4	62.4	66.2							71.3	59.8	77.4
HMAXF	357	337	339							395	423	397
SHMAX	2472	2497	2286							1512	1322	1424
KM												
430											1640	
420											1639	
410											1621	
400										1555	1580	1406
390										1554	1516	1404
380										1539	1427	1390
370										1508	1320	1365
360	2243									1463	1184	1327
350	2237									1399	1026	1278
340	2207	2536	2177							1328	834	1216
330	2152	2527	2168							1240	621	1148
320	2072	2487	2134							1126	417	1061
310	1966	2415	2075							995	219	960
300	1837	2310	1988							845	103	834
290	1684	2174	1886							679	46.5	694
280	1504	2005	1753							527		540
270	1304	1786	1585							377		372
260	1078	1532	1402							252		219
250	907	1271	1188							155		112
240	754	1004	986							93.3		60.0
230	643	809	820							54.4		12.4
220	558	650	672							12.4		
210	497	540	562									
200	451	472	477									
190	413	421	417									
180	380	379	366									
170	347	341	324									
160	316	305	283									
150	280	272	247									
140	240	242	224									
130	214	216	212									
120	193	202	202									
110		12.4	112									

ELECTRON DENSITY

PUERTO RICO 60 W 25 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A	A		A	A	A		A	A	A
HMIN	288	219		228	347	308	242		112	105	110	107
SCAT	44.9	41.4		96.8	53.4	52.6	61.3		66.8	64.6	84.7	69.5
HMAXF	405	316		441	456	417	402		323	326	337	328
SHMAX	992	1173		474	294	299	347		699	854	1046	1100
KM												
460					417							
450				335	416							
440				335	408							
430				334	392							
420				331	369	424						
410	1555			327	340	423	396					
400	1551			320	302	414	396					
390	1513			312	256	397	392					
380	1435			300	198	372	382					
370	1319			288	127	340	368					
360	1166			273	67.5	301	350					
350	988			259	19.9	255	326					
340	794			244		198	294			774		
330	573			228		131	255		599	707	773	896
320	362	2177		214		65.9	215		599	705	766	893
310	161	2165		198		12.4	173		593	695	754	881
300	83.8	2095		185			135		581	677	737	857
290	23.0	1964		170			103		560	648	715	830
280		1786		155			78.1		533	614	687	789
270		1482		138			60.0		502	573	655	738
260		1050		117			46.1		468	527	615	679
250		573		88.8			24.6		431	477	566	608
240		262		51.9					394	431	513	540
230		97.2		12.4					358	389	459	474
220		12.4							326	355	413	426
210									297	327	377	391
200									271	306	350	366
190									244	287	328	347
180									212	264	310	328
170									177	238	286	307
160									141	209	252	286
150									117	179	214	260
140									106	156	176	227
130									98.3	140	158	198
120									89.2	132	150	185
110										117	97.2	149

ELECTRON DENSITY

PUERTO RICO 60 W 25 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	S	A	A	A	A	A	A	A		
HMIN	111							246	198	217	229	258
SCAT	93.4							63.4	69.5	71.2	61.4	68.0
HMAXF	378							381	369	399	368	408
SHMAX	1423							894	882	864	655	591
KM												
410												652
400										885		649
390								1084		882		640
380	917							1084		869		623
370	916							1076	917	848	814	599
360	909							1054	913	818	810	573
350	897							1019	900	781	796	532
340	880							971	877	732	771	483
330	857							907	844	672	734	421
320	834							827	802	601	690	356
310	801							727	751	515	629	236
300	759							608	689	427	547	215
290	711							477	617	335	452	143
280	657							321	540	253	347	91.3
270	599							179	446	179	240	53.8
260	540							83.8	353	131	140	12.4
250	491							40.2	262	93.2	83.8	
240	446								179	65.0	49.6	
230	415								121	45.1	6.7	
220	390								78.4	12.4		
210	375								49.6			
200	362								12.4			
190	348											
180	335											
170	307											
160	278											
150	247											
140	219											
130	197											
120	184											

ELECTRON DENSITY

PUERTO RICO 60 W 26 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A	A	A		A	A	A	A	A	A	A
HMIN	258	268	271	237	248							
SCAT	64.3	70.2	62.7	53.9	59.7							
HMAXF	401	416	391	364	383							
SHMAX	466	596	536	455	438							
KM												
420		643										
410	540	642										
400	540	635	661									
390	536	622	661		540							
380	526	602	656		540							
370	509	575	643	608	534							
360	487	540	621	607	521							
350	460	503	591	597	499							
340	420	457	554	577	474							
330	370	404	508	547	437							
320	313	342	446	508	389							
310	253	262	377	453	330							
300	192	170	293	393	271							
290	127	102	192	325	210							
280	83.8	57.5	83.8	249	143							
270	52.1	12.4		172	89.2							
260	12.4			97.2	51.8							
250				56.7	12.4							
240				18.3								

ELECTRON DENSITY

PUERTO RICO 60 W 26 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A	A		F	
HMIN								225	198	234	294	253
SCAT								66.8	68.9	60.0	65.8	68.1
HMAXF								348	359	394	431	393
SHMAX								1114	981	777	789	809
KM												
440											906	
430											906	
420											900	
410											884	
400										896	857	917
390										895	819	917
380										884	771	909
370										860	716	891
360									1050	822	643	863
350								1341	1045	773	564	825
340								1337	1030	716	467	779
330								1317	1004	643	362	721
320								1283	966	560	228	647
310								1233	917	477	112	558
300								1173	857	389	49.6	446
290								1096	790	297		335
280								982	704	213		219
270								834	608	143		112
260								667	496	94.3		49.6
250								477	381	60.0		
240								271	268	32.8		
230								83.8	173			
220									102			
210									57.1			
200									12.4			

ELECTRON DENSITY

PUERTO RICO 60 W 27 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	F								A	A	E	A
HMIN	250	227	188	249	238	239	229	209				
SCAT	41.5	52.0	50.5	48.7	56.6	58.9	41.7	40.5				
HMAXF	357	345	321	351	359	356	309	281				
SHMAX	572	630	473	323	334	272	213	298				
KM												
360	960			492	446	348						
350	953	906		492	444	347						
340	917	904		486	434	342						
330	853	887	661	469	417	331						
320	769	853	661	442	396	316						
310	667	804	653	407	366	297	389					
300	540	736	632	357	325	270	385					
290	389	643	598	293	271	238	369	608				
280	219	520	552	219	214	201	344	608				
270	117	389	492	149	147	157	310	596				
260	60.0	271	417	87.2	94.9	112	253	566				
250		161	327	12.4	56.0	60.0	190	521				
240		78.1	240		12.4	12.4	112	446				
230		29.1	165				12.4	322				
220			116					112				
210			79.0					12.4				
200			49.6									
190			12.4									

ELECTRON DENSITY

PUERTO RICO 60 W 27 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A		F	F	F
HMIN								278	308			
SCAT								60.6	62.8			
HMAXF								401	462			
SHMAX								1277	1985			
KM												
470									2327			
460									2327			
450									2307			
440									2258			
430									2179			
420									2072			
410								1612	1937			
400								1611	1763			
390								1599	1555			
380								1565	1315			
370								1508	1068			
360								1430	794			
350								1341	508			
340								1212	286			
330								1050	143			
320								875	71.4			
310								643	20.7			
300								404				
290								198				
280								40.2				

ELECTRON DENSITY

PUERTO RICO 60 W 28 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	F			J			S		G	A	
HMIN	229		239	224	208	278	336		107	110		109
SCAT	55.8		66.6	69.6	57.2	76.5	101		91.2	44.2		62.4
HMAXF	361		373	387	332	436	496		313	196		198
SHMAX	1447		1137	1238	636	299	200		433	153		198
KM												
500							161					
490							161					
480							160					
470							158					
460							156					
450							153					
440						286	149					
430						285	144					
420						283	138					
410						278	132					
400						270	126					
390				1328		260	118					
380			1354	1325		247	109					
370	1907		1353	1309		232	98.4					
360	1906		1341	1279		216	85.9					
350	1888		1313	1235		196	70.0					
340	1839		1270	1177	875	175	40.2					
330	1754		1210	1107	875	152						
320	1641		1143	1021	866	127			316			
310	1504		1050	917	844	101			316			
300	1341		917	794	807	78.1			315			
290	1126		754	655	760	55.4			311			
280	894		585	500	695	12.4			306			
270	658		389	362	608				299			
260	389		198	219	491				289			
250	179		91.0	127	350				276			
240	83.8		12.4	71.4	191				262			
230	12.4			40.2	102				246			
220					58.2				231			
210					12.4				216			
200									202	235		268
190									187	234		267
180									170	227		263
170									152	213		255
160									134	191		246
150									119	168		236
140									107	155		215
130									96.1	146		187
120									90.0	131		168
110									83.8	12.4		112

ELECTRON DENSITY

PUERTO RICO 60 W 28 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	B		A				A	A				
HMIN	110	110		110	109	108		259	288	308	288	250
SCAT	48.0	166		112	99.3	106		67.3	69.2	50.3	69.0	69.6
HMAXF	176	318		369	371	410		406	441	431	443	414
SHMAX	150	584		710	745	831		384	406	324	586	527
KM												
450									427		634	
440									427	446	634	
430									424	446	628	
420						439			417	441	616	557
410						439		417	402	428	597	556
400						438		416	387	404	571	551
390						435		411	367	372	543	541
380					424	430		402	342	335	502	524
370				368	424	423		388	312	286	450	502
360				368	423	413		368	276	240	389	477
350				366	420	402		345	238	186	326	441
340				362	413	390		317	198	136	253	398
330				354	404	374		286	157	94.5	179	346
320		329		345	395	359		250	119	56.7	124	290
310		329		337	384	340		209	79.3	12.4	83.8	234
300		328		326	369	321		165	49.6		49.6	174
290		327		315	353	302		119	12.4		12.4	124
280		325		304	335	284		76.0				83.8
270		322		293	317	268		47.8				60.0
260		319		284	300	254		7.1				41.0
250		315		277	283	242						
240		311		270	268	233						
230		304		262	257	225						
220		296		259	248	217						
210		288		255	240	211						
200		282		252	234	205						
190		277		248	229	199						
180	274	271		245	224	190						
170	273	266		241	218	180						
160	266	258		230	201	166						
150	254	246		212	182	151						
140	241	228		186	163	137						
130	212	203		162	143	124						
120	185	186		150	134	114						
110	40.2	112		12.4	83.8	60.0						

ELECTRON DENSITY

PUERTO RICO 60 W 29 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL												
HMIN	293	280	227	228	299	308	249	113	109	109	110	110
SCAT	53.6	57.8	46.7	49.7	65.8	59.0	59.1	66.2	59.9	59.4	57.4	66.5
HMAXF	433	414	328	337	433	431	365	325	313	305	330	338
SHMAX	366	425	400	302	299	297	306	727	1236	1095	1701	2057
KM												
440	461				335	375						
430	461				335	375						
420	454	540			332	372						
410	437	540			325	363						
400	414	533			314	348						
390	384	518			299	331						
380	348	494			282	305						
370	304	465			259	273	389					
360	258	425			232	235	388					
350	213	371			200	190	383					
340	168	310		454	167	140	372				1697	1984
330	122	245	670	452	134	97.2	355	670			1697	1977
320	86.0	179	665	440	99.1	61.8	335	669	1303		1685	1947
310	56.5	119	644	420	63.4	12.4	307	661	1302	1167	1647	1896
300	31.0	74.2	612	392	12.4		271	646	1287	1164	1583	1821
290		46.0	559	353			231	621	1253	1147	1488	1726
280			477	300			187	591	1197	1114	1371	1613
270			372	240			143	554	1134	1061	1240	1464
260			240	161			91.4	504	1044	997	1096	1279
250			127	97.2			12.4	446	937	917	936	1050
240			66.7	56.0				403	819	810	787	875
230			20.3	12.4				362	698	688	666	716
220								323	583	560	567	584
210								283	477	446	491	492
200								244	389	373	435	426
190								206	314	322	392	379
180								169	251	281	354	341
170								135	198	242	317	304
160								110	166	202	280	265
150								94.6	138	161	245	225
140								83.8	117	134	215	192
130								78.2	107	123	190	174
120								72.3	101	117	167	164
110									71.4	97.2	40.2	40.2

ELECTRON DENSITY

PUERTO RICO 60 W 29 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A				
HMIN								229	201	237	262	249
SCAT								60.5	52.2	55.1	54.5	51.7
HMAXF								354	371	377	389	383
SHMAX								1050	915	876	877	799
KM												
390											1191	1096
380									1119	1143	1183	1095
370									1119	1138	1154	1078
360								1316	1106	1116	1106	1039
350								1314	1073	1075	1039	981
340								1297	1016	1015	948	904
330								1262	943	937	834	810
320								1210	856	840	696	697
310								1143	754	726	540	565
300								1050	654	595	378	417
290								937	548	446	240	276
280								804	446	301	112	161
270								643	335	179	53.0	97.2
260								477	247	105		54.6
250								286	175	60.0		5.5
240								143	121	19.0		
230								12.4	83.8			
220									58.9			
210									40.2			

ELECTRON DENSITY

PUERTO RICO 60 W 30 APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL									A	A	A	
HMIN	290	324	292	227	228	208	262	114				109
SCAT	57.6	66.7	68.4	72.2	40.6	67.5	68.9	61.0				94.4
HMAXF	429	463	454	394	306	330	416	309				422
SHMAX	720	734	810	1097	547	463	255	540				2507
KM												
470		824										
460		823	875									
450		815	874									
440		799	866									
430	917	772	849									1583
420	911	737	822				262					1583
410	892	694	786				262					1577
400	857	638	743	1096			259					1563
390	812	567	687	1095			253					1539
380	750	486	617	1086			244					1507
370	672	400	534	1066			233					1466
360	573	310	446	1034			220					1411
350	468	227	349	994			203					1352
340	355	143	262	943		524	182					1281
330	247	75.8	174	882		522	161					1206
320	143		112	812		514	137					1128
310	83.8		68.6	738	1143	500	115	565				1050
300	49.6		42.2	655	1136	480	93.6	562				971
290				556	1096	455	73.0	551				890
280				446	1025	425	53.7	531				809
270				346	900	389	32.2	508				731
260				233	679	342		474				656
250				127	335	293		428				586
240				65.8	112	234		375				523
230				19.9	24.6	161		319				470
220						83.8		266				426
210						23.0		219				391
200								184				362
190								153				340
180								127				318
170								106				298
160								84.9				276
150								71.4				246
140								67.8				217
130								64.3				195
120								60.9				180
110												83.8

ELECTRON DENSITY

PUERTO RICO 60 W 30 APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A		A		A	A	A					A
HMIN		109		110	115	109		303	297	297	338	348
SCAT		75.8		88.9	81.2	83.7		81.7	117	91.2	81.1	80.1
HMAXF		527		500	459	393		444	513	482	483	497
SHMAX		2452		3564	3176	2180		234	363	285	240	354
KM												
530		1367										
520		1364							240			
510		1350		2396					240			
500		1316		2396					239			335
490		1274		2389					238	229	229	335
480		1228		2367					235	229	229	332
470		1160		2329					232	228	228	326
460		1096		2273	2361				228	226	225	318
450		1036		2202	2353			229	223	222	220	307
440		972		2123	2328			229	217	217	211	294
430		908		2032	2284			228	210	210	203	279
420		844		1915	2222			224	204	202	193	260
410		782		1786	2140			219	197	193	182	237
400		725		1645	2040	1683		211	187	183	168	211
390		669		1503	1926	1682		204	176	171	153	183
380		618		1360	1795	1672		194	163	158	136	153
370		571		1185	1655	1650		182	148	143	116	122
360		528		1018	1504	1616		168	131	129	92.1	88.2
350		491		887	1341	1570		151	114	114	63.4	46.3
340		460		768	1187	1508		130	97.2	97.2	12.4	
330		433		662	1032	1446		104	79.2	80.0		
320		410		573	875	1360		69.2	62.0	63.0		
310		389		499	747	1264		40.2	45.1	46.4		
300		373		439	635	1149			12.4	12.4		
290		358		391	540	1037						
280		345		354	453	917						
270		333		325	389	794						
260		326		302	338	679						
250		318		283	303	580						
240		310		271	278	492						
230		306		261	259	417						
220		302		256	245	358						
210		298		250	237	307						
200		295		245	231	264						
190		291		240	226	228						
180		287		230	221	198						
170		278		220	205	178						
160		265		207	182	161						
150		247		194	159	142						
140		224		182	143	124						
130		200		172	135	111						
120		183		163	127	104						
110		83.8		40.2		83.8						

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

PUERTO RICO — 60 W — APR 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	16	16	20	20	20	22	20	15	17	15	15	15
HMIN	245	233	219	222	230	237	240	174	109	109	110	110
RATIO	5.4	5.2	5.0	4.6	4.6	4.4	4.8	5.2	4.2	3.8	3.6	3.7
SCAT	49.3	51.7	54.1	57.1	58.0	62.1	57.3	54.8	63.1	74.3	77.8	70.7
NMAX	1176	1083	859	710	656	588	593	907	1335	1505	1765	2039
HMAXF	359	350	340	357	365	376	362	309	308	321	336	340
SHMAX	763	729	611	554	508	479	445	692	1190	1497	1862	2099
SHINF	4081	3784	3035	2556	2360	2137	2117	3251	4954	5742	6840	7853
KM												
950	99.8	87.9	67.0	60.4	58.5	54.7	51.1	62.1	87.0	104	131	156
900	128	113	85.8	77.5	75.0	70.1	65.6	79.6	112	133	168	200
850	164	145	110	99.4	96.2	89.9	84.1	102	143	170	216	257
800	210	185	141	127	123	115	108	131	183	219	277	329
750	269	237	181	163	157	147	138	168	235	280	354	421
700	343	302	230	208	201	187	175	214	300	358	452	538
650	436	384	293	264	255	237	222	273	383	456	576	684
600	549	486	371	332	320	297	280	346	487	578	729	866
550	685	607	464	414	398	366	348	436	614	728	914	1086
500	838	745	572	507	484	442	424	542	765	905	1131	1340
490	870	774	595	526	501	457	439	565	798	944	1177	1394
480	902	803	618	545	519	471	454	588	832	983	1224	1449
470	933	832	641	564	536	485	469	612	867	1022	1271	1504
460	964	861	664	582	552	499	484	636	902	1062	1318	1559
450	994	889	686	600	568	511	498	660	937	1103	1365	1613
440	1023	917	708	618	584	523	512	684	972	1143	1412	1667
430	1051	943	730	634	598	533	525	708	1008	1183	1458	1720
420	1077	968	751	650	610	542	536	732	1043	1223	1503	1770
410	1100	992	770	663	621	548	546	755	1078	1262	1546	1819
400	1121	1013	788	675	630	553	554	777	1113	1300	1588	1864
390	1138	1031	805	685	636	554	561	799	1146	1336	1626	1906
380	1149	1046	819	693	639	551	564	819	1178	1370	1661	1943
370	1154	1057	829	697	638	545	564	837	1208	1401	1692	1974
360	1152	1063	836	696	631	535	561	853	1235	1429	1717	1999
350	1139	1062	837	689	618	520	554	866	1260	1454	1737	2016
340	1109	1051	833	674	597	503	541	877	1282	1473	1750	2024
330	1059	1027	821	651	567	481	521	883	1299	1488	1754	2016
320	987	986	800	617	527	451	493	885	1312	1495	1747	1989
310	895	922	767	573	479	417	460	882	1319	1494	1721	1938
300	774	835	721	518	422	378	421	872	1318	1480	1673	1862
290	626	722	659	452	357	331	373	852	1304	1449	1604	1761
280	458	588	580	378	286	278	317	820	1276	1397	1513	1634
270	284	435	487	300	216	221	257	774	1229	1324	1400	1484
260	146	289	384	228	157	164	196	708	1161	1233	1271	1314
250	60.3	161	278	161	107	110	133	622	1073	1121	1125	1136
240	22.7	71.6	183	105	66.5	65.9	79.2	513	960	990	975	963
230	5.9	25.6	107	61.4	39.8	37.2	37.8	388	824	850	830	804
220		5.2	49.5	32.7	23.0	17.4	14.7	244	678	712	697	666
210		.8	22.6	13.6	11.9	6.4	5.0	156	541	588	585	561
200			8.8	5.5	5.4	1.5	.6	97.3	425	487	497	482
190			1.2	1.2	.6			69.9	330	407	427	424
180								54.5	261	342	371	377
170								42.6	208	290	322	336
160								34.3	170	246	280	298
150								28.6	144	208	243	260
140								25.7	124	177	209	222
130								24.1	111	156	181	194
120								22.4	102	143	167	178
110								8.8	51.5	88.4	80.8	75.6

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

PUERTO RICO — 60 W — APR 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	15	14	13	17	14	9	12	17	17	18	19	16
HMIN	111	110	110	110	110	110	207	213	214	243	252	256
RATIO	3.8	3.9	3.8	3.8	3.8	3.7	4.8	4.5	4.2	4.6	4.7	4.9
SCAT	63.1	60.0	62.5	62.3	63.8	69.7	57.1	60.9	63.4	56.3	57.4	55.4
NMAX	2166	2180	2087	2061	1905	1579	1620	1355	1228	1198	1256	1167
HMAXF	333	329	332	335	333	337	339	350	372	384	387	384
SHMAX	2169	2176	2117	2123	1980	1656	1263	1104	1077	932	952	848
SHINF	8280	8326	8006	7937	7353	6110	5832	4926	4540	4310	4496	4141
KM												
950	164	164	161	160	148	123	129	110	114	116	123	112
900	210	210	206	206	190	158	165	142	146	149	158	143
850	270	270	264	264	243	202	212	182	187	191	202	184
800	346	346	339	338	311	259	271	234	239	244	259	235
750	443	443	433	432	399	332	347	299	306	312	330	300
700	566	566	553	552	509	424	443	382	389	397	420	382
650	720	720	704	703	648	539	563	485	494	503	532	484
600	912	912	891	889	820	682	712	613	621	631	667	608
550	1144	1145	1117	1114	1027	854	891	766	770	781	824	753
500	1414	1416	1379	1374	1267	1052	1097	940	934	942	993	909
490	1471	1474	1435	1429	1318	1093	1140	977	967	975	1026	941
480	1529	1532	1491	1485	1369	1135	1184	1014	1000	1006	1059	971
470	1587	1591	1547	1541	1420	1178	1227	1050	1032	1037	1090	1001
460	1646	1650	1604	1596	1472	1220	1271	1086	1063	1066	1120	1030
450	1704	1709	1660	1652	1523	1261	1314	1122	1092	1093	1148	1057
440	1762	1767	1715	1706	1573	1302	1355	1157	1120	1119	1173	1082
430	1818	1825	1768	1759	1622	1342	1396	1190	1145	1141	1196	1104
420	1872	1880	1820	1810	1668	1380	1435	1222	1168	1161	1215	1123
410	1924	1933	1869	1858	1713	1416	1471	1251	1187	1176	1229	1139
400	1973	1983	1915	1903	1754	1449	1504	1277	1203	1187	1238	1150
390	2017	2028	1957	1943	1791	1478	1534	1300	1213	1193	1240	1156
380	2057	2069	1993	1978	1824	1504	1559	1319	1218	1190	1231	1154
370	2091	2105	2024	2007	1851	1525	1579	1333	1216	1174	1210	1140
360	2118	2133	2048	2029	1871	1541	1593	1341	1201	1136	1173	1111
350	2136	2154	2063	2043	1883	1551	1598	1342	1173	1082	1116	1063
340	2144	2165	2068	2045	1885	1552	1592	1330	1130	1010	1038	995
330	2137	2160	2056	2029	1872	1539	1570	1304	1071	918	937	904
320	2108	2134	2020	1987	1839	1510	1530	1262	995	806	817	789
310	2055	2080	1959	1922	1786	1464	1467	1203	899	674	675	650
300	1975	1997	1871	1833	1712	1405	1379	1123	792	532	521	490
290	1867	1888	1760	1718	1617	1332	1267	1026	672	393	374	341
280	1731	1749	1621	1581	1501	1244	1133	904	547	268	240	213
270	1569	1582	1460	1424	1368	1145	970	762	421	167	136	106
260	1386	1391	1278	1255	1215	1039	777	607	308	95.4	65.9	47.6
250	1195	1194	1097	1082	1056	925	542	447	214	50.4	25.9	11.0
240	1007	1001	932	919	904	806	337	288	140	21.3	7.5	.3
230	836	835	786	770	760	685	202	152	83.8	6.0	1.5	
220	695	696	662	646	634	572	118	71.3	46.2	2.1		
210	583	589	561	548	527	467	62.6	24.2	22.2			
200	498	508	485	471	443	378	23.1	1.5	7.1			
190	436	447	426	410	377	311	14.9		.7			
180	387	399	379	361	325	259	11.7					
170	347	357	340	318	282	218	9.2					
160	309	320	303	280	245	186	7.5					
150	272	281	266	248	213	161	6.5					
140	237	245	230	219	187	140	5.9					
130	209	215	204	194	167	125	5.6					
120	189	198	190	178	155	116	5.3					
110	33.3	72.5	61.6	87.0	64.2	44.8	5.0					

TABLES OF IONOSPHERIC DATA

March 1960 - January 1953

Table 1

Adak, Alaska (51.9° N, 176.6° W) — March 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.85	24	305		---	----		2.62
01		3.65	22	305		---	----		2.65
02		>3.65	26	320					2.60
03		3.6	23	315					2.60
04		3.6	25	320					2.55
05		3.4	24	325		---	----		2.50
06		4.1	28	270		134	1.75		2.78
07	---	6.0	31	240	---	115	2.25		3.00
08	---	7.0	31	235	---	110	2.70		3.15
09	---	8.3	31	225	---	106	3.00		3.10
10	(350)	9.3	31	215	---	105	3.25		3.10
11	(310)	9.95	30	215	---	107	3.30	>3.3	3.05
12	(300)	10.6	31	215	---	107	3.38		3.05
13	---	10.6	31	215	---	105	3.30		3.10
14	---	10.5	31	220	---	109	3.20		3.15
15	---	10.0	31	225	---	110	3.00		3.20
16	---	9.3	31	230	---	114	2.65		3.20
17	---	8.7	31	230	---	118	2.20		3.25
10		7.7	31	220		145	1.60		3.20
19		6.7	31	225		---	----		3.15
20		5.6	31	225					3.10
21		4.7	30	240					3.00
22		4.3	27	260					2.85
23		4.0	27	285					2.75

Time: 100.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Boulder, Colorado (40.0° N, 105.3° W) — March 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.4	24	290					2.70
01		4.4	25	300					2.70
02		4.5	25	295					2.70
03		4.4	25	300					2.65
04		4.2	24	280					2.70
05		4.1	25	275					2.75
06		4.6	25	260		1.59	1.85	3.0	2.90
07	---	6.7	24	235	---	(109)	2.30	2.8	3.22
08	(275)	8.0	24	220	---	103	2.75		3.18
09	(270)	8.5	25	210	---	101	3.10		3.05
10	(310)	9.55	26	209	---	101	3.32		2.95
11	290	10.3	25	200	---	101	3.50		2.90
12	300	10.9	25	205	---	101	3.60		2.90
13	285	10.95	26	205	---	102	3.60		2.90
14	285	10.85	28	215	---	104	3.50		2.88
15	(300)	10.6	29	210	--	105	3.30		2.90
16	---	10.4	26	225	---	105	2.95		3.00
17	---	10.1	26	230	---	<109	2.50		3.05
18		9.6	26	220	---	<108	1.85		3.15
19		8.2	27	210					3.05
20		6.95	26	220					3.05
21		5.75	26	225					3.00
22		4.8	26	250					2.85
23		4.5	24	260					2.82

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Maui, Hawaii (20.8° N, 156.5° W) — March 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.15	30	235					3.20
01		6.35	30	235					3.15
02		5.35	30	240					3.10
03		4.5	31	<245					3.10
04		3.7	31	(265)					2.80
05		3.6	31	300					2.70
06		3.6	31	326					2.70
07		7.0	31	250		123	2.15		3.20
08		9.8	31	240		113	2.90		3.20
09	---	11.0	31	230		109	3.30		3.10
10	---	12.4	31	220		107	3.60	3.7	3.00
11	(270)	12.9	31	210	---	107	3.80		3.00
12	(295)	13.5	31	210		107	3.85		2.90
13	---	14.1	31	205		107	3.90	3.9	2.90
14	(320)	14.1	31	210	---	(107)	3.80	3.9	2.85
15	(305)	14.4	31	220		109	3.65		2.90
16	(290)	14.0	31	225		(109)	3.40	3.7	2.95
17		13.5	31	240		(113)	2.90	3.2	3.00
18		13.6	31	245		(121)	2.20	2.5	3.10
19		12.9	31	235				2.6	3.15
20		11.7	31	225				1.6	3.15
21		10.9	31	220					3.10
22		9.3	31	230					3.00
23		8.45	30	245					3.10

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Resolute Bay, Canada (74.7° N, 94.9° W) — January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.8	31	270		---	----		2.50
01		4.2	31	280		---	----		2.60
02		4.4	31	290					2.55
03		4.7	31	300					2.50
04		4.4	31	290					2.50
05		4.8	31	300					2.50
06		4.8	31	300		---	----		2.50
07		4.2	31	295		---	----		2.60
08		4.8	31	280		---	----		2.50
09		4.5	31	280		---	----		2.50
10		5.5	31	260		---	----		2.55
11		5.4	31	260		---	1.30	1.4	2.60
12		6.1	31	250		---	1.35		2.60
13		6.8	31	250		---	1.50		2.70
14		6.2	31	250		---	----	1.3	2.50
15		6.6	31	260		---	----		2.60
16		6.3	31	250		---	----		2.60
17		5.5	31	280		---	----		2.50
18		6.0	31	260		---	----		2.50
19		6.1	31	270		---	----		2.60
20		5.8	31	280		---	----		2.60
21		5.2	31	275		---	----		2.50
22		5.3	31	260		---	----		2.70
23		4.6	30	270		---	----		2.60

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 5

Lulea, Sweden (65.6° N, 22.1° E) — January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.1)	16	350				(2.0)	(2.6)
01		(3.9)	21	350				1.4	(2.7)
02		4.2	14	330					2.7
03		4.3	17	310					2.7
04		4.0	22	300					2.8
05		3.8	21	290					2.8
06		3.8	22	275					2.9
07		3.6	22	260					2.9
08		4.5	25	250		---	---		3.0
09		6.3	25	250		---	1.6		3.0
10		8.3	28	245		---	2.0		3.1
11		10.0	26	240		---	2.0		3.2
12	---	11.3	27	240	---	---	2.0		3.1
13		10.4	24	240		---	2.0		3.2
14		10.2	24	235		---	1.6		3.2
15		9.0	24	225		---	---		3.2
16		6.0	26	230		---	---		3.1
17		5.0	25	240					3.1
18		3.6	22	250					3.1
19		3.0	21	275					3.0
20		2.9	21	200		---	---		2.8
21		3.1	19	300		---	---		2.0
22		(2.5)	7	330				2.0	(2.7)
23		3.0	14	330				1.9	2.6

Time: 15.0°E.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 6

Grahamstown, Argentina (61.2° S, 45.4° W) — January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.05)	17					5.2	(2.65)
01		(4.7)	16					4.7	(2.70)
02		(4.5)	13					4.7	(2.65)
03		(5.0)	13					4.7	(2.75)
04		(4.5)	9					4.7	(2.75)
05		(4.3)	21					3.7	(2.80)
06		(4.25)	22					3.6	(2.80)
07		(3.95)	16					2.4	(2.65)
08		(4.1)	25						(2.88)
09		6.6	30			---	----		3.10
10		8.7	31			135	(2.30)		3.15
11		11.6	31			<129	2.05		3.15
12		11.2	31			125	(2.50)		3.15
13		(11.6)	29			(120)	(2.40)		3.10
14		(10.7)	26			123	(2.40)		(3.10)
15		(9.1)	28			<135	(2.15)		(3.10)
16		(8.1)	23			117	(1.90)		(3.10)
17		(6.3)	14					2.3	(2.95)
18		(5.2)	9					2.9	(2.90)
19		(5.6)	6					3.7	----
20		(4.6)	5					4.3	----
21		(5.0)	8					4.3	(2.65)
22		(5.6)	9					5.4	(2.60)
23		(5.4)	9					5.2	(2.65)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

Churchill, Canada (58.8° N, 94.2° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.6	23	295				5.0	----
01		4.3	27	300				5.0	
02		4.2	28	310		---	----	3.6	----
03		4.4	22	305		---	----	3.1	
04		4.0	25	310		---	----	3.0	----
05		4.0	25	350		---	----	3.2	
06		4.4	22	310		---	----	3.4	
07	---	4.6	22	310	---	---	----	4.4	----
08	---	4.8	23	300	---	---	----	>3.7	----
09	---	6.1	29	285	---	---	(2.05)	2.6	(3.10)
10	---	7.4	30	270	---	125	2.50		3.10
11	---	0.8	31	260	---	130	2.80		3.10
12	---	10.6	31	250	---	<125	2.80		3.10
13	---	11.6	30	250	---	130	2.80		3.10
14	---	12.0	30	240	---	125	2.60		3.10
15		12.0	29	240		115	2.35		3.10
16		11.6	30	240		130	2.00		3.05
17		9.7	28	250		---	----	1.8	----
18		7.1	27	270		---	----	2.6	
19		6.0	26	290		---	----	2.9	----
20		5.6	25	300		---	----	3.2	----
21		5.3	29	295		---	----	3.3	
22		4.7	25	290		---	----	4.2	----
23		4.5	23	300				4.0	----

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 8

Inverness, Scotland (57.4° N, 4.2° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.8	28	300				<1.0	2.50
01		2.6	30	310				<1.0	2.40
02		2.4	29	340				<1.0	2.40
03		2.5	29	310				1.1	2.45
04		2.6	28	310				<1.1	2.50
05		2.8	28	300				<1.3	2.65
06		2.8	28	270				<1.6	2.65
07		2.7	27	295				<1.6	2.70
08		(3.8)	28	250				<1.6	2.75
09		6.7	28	240		120	1.90		3.00
10		9.0	28	240		120	2.30		3.05
11		11.1	28	230		125	2.55		3.10
12		12.3	28	230		125	2.65		3.10
13		12.6	28	230		125	2.60		3.10
14		12.0	28	230		125	2.50		3.10
15		11.4	28	230		130	2.30		3.10
16		>10.5	28	220		130	1.90		3.05
17		>8.2	28	215				<1.6	(3.10)
18		>6.7	28	220				<1.6	3.00
19		5.0	28	240				<1.6	2.85
20		4.2	27	255				<1.6	2.80
21		3.8	28	260				<1.6	2.70
22		3.4	29	285				<1.6	2.65
23		3.2	28	310				<1.6	2.50

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 9

Slough, England (51.5° N, 0.6° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	27	290				<1.3	2.55
01		3.6	26	<300				<1.1	2.60
02		3.5	27	300				<1.0	2.50
03		3.2	25	<295				<1.0	2.60
04		3.0	29	<275				<1.2	2.70
05		3.1	28	250				<1.6	2.00
06		3.0	27	<250				<1.6	2.80
07		3.2	27	<245		---	<1.60	<1.6	2.70
08		6.4	29	230		160	1.80	1.8	3.10
09		9.4	27	230		125	2.35		3.25
10		>11.4	30	225		115	2.70		3.20
11		12.5	29	225		115	2.95	2.9	3.20
12		12.5	29	225		120	2.95	3.1	3.10
13		12.5	29	225		120	2.90	2.9	3.10
14		12.0	29	230		120	2.75	2.0	3.10
15		>11.6	28	225		125	2.60		3.10
16		>10.0	30	225		---	<2.10	2.2	3.15
17		>9.5	28	215		---	<1.60	1.0	3.20
18		7.7	30	215				<1.6	3.10
19		5.8	28	220				<1.6	3.10
20		4.9	28	<230				<1.6	2.85
21		4.4	29	<245				<1.6	2.80
22		4.0	29	<255				<1.6	2.70
23		3.0	26	<280				<1.6	2.60

Time: 0.0°.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 10

Winnipeg, Canada (49.9° N, 97.4° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	29	200					2.90
01		4.0	28	290					2.85
02		4.0	29	290					2.85
03		4.0	27	290					(2.95)
04		3.8	25	295					2.85
05		3.2	23	295					2.00
06		3.5	21	290					(3.00)
07		3.3	22	280					(3.00)
08		4.2	26	265		---	----		3.00
09		7.2	26	235		---	2.20		3.10
10		9.4	25	230		125	2.75		3.10
11		10.0	21	235		120	3.00		(3.05)
12		10.7	19	230		120	3.00		(2.95)
13		11.4	17	230		110	3.10		(2.95)
14	---	12.1	16	235		115	3.00		(2.90)
15	---	11.4	15	230		115	2.80		(2.90)
16		11.4	14	225		115	2.50		(2.90)
17		10.6	16	225		---	2.00		(2.90)
18		9.8	23	220					(2.95)
19		8.2	28	220					(3.00)
20		7.0	30	225					3.00
21		5.8	30	235					3.10
22		5.2	29	240					(3.00)
23		4.8	28	270					(2.80)

Time: 90.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 13.5 seconds.

Table 11

St. John's, Newfoundland (47.6° N, 52.7° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.3	29	300					2.70
01		4.6	28	300					2.65
02		4.5	26	300					2.75
03		4.4	28	279					2.80
04		4.0	29	278					2.75
05		4.0	31	269					2.75
06		3.7	31	263					2.90
07		5.0	31	250		150	>1.80		3.05
08		8.4	31	229		135	>2.40		3.20
09		11.2	31	230		125	2.80		3.20
10		12.2	31	229		122	3.00		3.15
11		12.9	31	225		120	3.10		3.15
12		12.7	31	228		120	3.20		3.10
13		12.9	31	230		120	3.00		3.05
14		12.6	31	231		120	2.90		3.05
15		12.2	31	232		120	2.60		3.05
16		11.8	31	230		(130)	2.10		3.05
17		10.2	30	228					3.00
18		9.2	29	232					3.00
19		0.1	28	239					2.90
20		6.9	29	250					2.90
21		6.1	29	264					2.05
22		5.5	27	270					2.80
23		4.7	27	280					2.75

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 12

Sottens, Switzerland (46.6° N, 6.7° E) January 1960

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	4.0	27						
01	300	3.9	24						
02	300	3.8	23						
03	310	3.9	21						
04	300	3.0	25						
05	270	3.7	24						
06	260	3.5	21						
07	250	3.5	20						
08	220	5.8	18			---	---		
09	210	0.1	22			120	2.2		
10	220	9.2	23			100	2.8		
11	220	9.8	25			100	3.0		
12	220	9.0	24			100	3.2		
13	220	9.5	26			100	3.1		
14	220	9.3	24			100	3.0		
15	220	9.2	26			100	2.8		
16	220	0.8	25			110	2.6		
17	210	8.4	24			110	2.1		
18	210	7.4	22						
19	210	6.4	23						
20	220	5.1	24						
21	240	4.4	23						
22	270	4.3	25						
23	280	4.2	21						

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 13

Ottawa, Canada (45.4° N, 75.9° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	29	290					(2.9)
01		4.5	29	295					2.8
02		4.4	30	290					(2.9)
03		4.1	29	290					(2.9)
04		4.0	30	290					(2.85)
05		4.2	29	290					(2.9)
06		4.0	20	280					---
07		4.0	30	280					---
08		7.0	30	235		115	2.0		3.2
09		9.5	31	235		130	2.6		3.3
10		11.4	30	230		115	3.0		3.2
11		12.2	30	230		110	3.1		3.1
12		12.4	30	225		110	3.1		3.1
13		12.9	30	230		110	3.1		3.05
14		12.8	31	235		110	3.0		3.0
15		12.4	31	240		120	2.8		3.0
16		12.0	30	235		125	2.3		3.0
17		11.2	31	230		---	1.8		(3.1)
18		10.0	31	230					(3.1)
19		8.4	30	230					(3.1)
20		7.0	29	230					3.05
21		6.2	30	245					3.0
22		5.9	29	250					3.0
23		5.2	30	270					3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 14

Bunia, Belgian Congo (1.5° N, 30.2° E) January 1960

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	9.0	20						2.68
01	240	8.7	23						2.83
02	230	7.0	22						2.09
03	230	5.0	23					1.6	2.97
04	250	4.6	24	---	---	---	---	2.9	<2.02
05	250	8.1	26	250	---	120	2.5	3.0	<2.03
06	---	9.6	26	240	---	110	3.2	3.6	2.65
07	---	10.0	24	230	---	110	3.6		2.32
08	---	10.6	22	230	---	110	4.0		2.08
09	---	11.8	16	230	---	110	4.0		2.16
10	(345)	11.9	23	220	5.1	110	4.0		2.18
11	---	12.2	23	230	---	110	4.0		2.13
12	(460)	12.0	23	250	---	110	4.0		<2.12
13	(410)	12.6	23	230	---	110	3.7		2.15
14	---	12.6	19	240	---	110	3.3		2.17
15	---	12.3	17	255	---	120	2.9	3.4	2.27
16	---	11.6	11	290	---	130	1.9	3.0	2.20
17	360	11.0	11					2.6	<2.16
18	370	(11.0)	0					1.8	(2.20)
19	310	(11.4)	9					1.0	<2.43
20	250	11.0	15					2.0	2.53
21	240	10.2	14						2.60
22	250	9.2	10						2.60
23	250	9.0	17					1.6	2.59

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 15

Lwiro, Belgian Congo (2.3° S, 28.8° E) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.1	25	240					2.84
01		8.5	24	260					2.90
02		8.2	25	250					2.96
03		7.6	25	235					3.06
04		6.8	25	230				(1.5)	3.02
05		6.0	25	230					3.10
06		5.8	26	250		---	E	(1.6)	3.16
07	255	8.2	26	240	---	119	2.60		3.24
08	255	9.4	24	230	---	112	3.20	3.3	3.02
09	260	9.9	25	220	---	111	3.70		2.70
10	---	10.8	25	215	---	109	3.95		2.48
11	(365)	11.9	25	210	---	109	4.10		2.44
12	375	12.8	25	205	---	109	4.15		2.52
13	390	13.0	25	200	---	109	4.10		2.54
14	405	12.6	25	210	---	111	4.00		2.49
15	400	12.8	24	220	---	111	3.80		2.53
16	305	13.0	25	230	---	111	3.40	3.4	2.57
17	370	12.7	26	240	---	113	2.90	(3.1)	2.56
18	---	12.2	26	275	---	123	2.05	(2.7)	2.51
19		12.3	26	340				(1.9)	2.51
20		12.4	26	335				(1.9)	2.57
21		12.9	25	280				(1.0)	2.77
22		12.5	25	240				(1.6)	3.01
23		10.3	23	220					3.00

Time: 30.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 16

Leopoldville, Belgian Congo (4.4° S, 15.2° E) January 1960

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	>8.5	7						(2.64)
01	250	7.0	13						2.57
02	250	7.0	18						2.62
03	240	6.4	25						2.74
04	245	5.5	25					1.6	2.76
05	260	5.8	25			(130)	1.7	2.1	2.05
06	(250)	0.0	18	250	---	120	2.7	3.2	2.84
07	---	9.0	21	240	---	110	3.3	3.0	2.67
08	---	>10.2	14	230	---	110	3.7		2.47
09	---	(11.2)	6	230	---	110	4.0	4.1	(2.24)
10	---	(13.3)	2	(235)	---	110	---		----
11	---	(13.0)	7	---	---	110	---		(2.30)
12	(430)	13.5	13	---	---	110	---		2.19
13	435	>12.7	24	245	---	110	4.0		<2.20
14	420	12.7	29	240	---	115	3.0		2.20
15	400	12.6	25	240	---	115	3.4		2.22
16	(370)	>12.6	17	255	---	120	2.9	3.0	2.27
17	290	(12.2)	8	290	---	(125)	2.0	2.6	<2.20
18	330	(14.0)	3					2.0	----
19	320	(13.3)	8						(2.40)
20	270	13.3	13						<2.70
21	240	13.5	11						2.72
22	230	>11.5	9						(2.57)
23	250	>8.8	8						<2.55

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 17

Elisabethville, Belgian Congo (11.6° S, 27.5° E) January 1960

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	6.7	17						2.58
01	260	6.2	16						2.60
02	265	6.0	19					1.6	2.62
03	260	5.1	19					1.6	<2.64
04	280	5.6	20	---	---	140	1.6	2.0	2.70
05	265	7.5	17	250	---	120	2.6	3.1	2.75
06	(295)	8.9	21	240	---	115	3.2		2.61
07	300	9.6	20	235	---	110	3.7		2.50
08	(345)	10.2	18	235	5.5	110	3.9		2.30
09	390	10.5	16	230	5.6	110	4.0		2.25
10	385	11.4	18	230	5.5	110	4.0		2.30
11	380	11.4	20	230	5.5	110	4.0	4.7	2.29
12	400	11.0	20	230	5.4	110	4.0		2.28
13	400	11.0	18	(235)	5.4	110	3.9		2.26
14	385	10.9	17	240	5.0	115	3.4	3.9	2.29
15	350	10.4	15	260	---	115	3.0	3.0	2.33
16	(300)	10.4	12	280	---	125	2.4	3.0	2.36
17	300	10.2	10					2.2	<2.48
18	300	(10.8)	6						<2.52
19	200	10.8	18					2.0	2.56
20	260	10.0	18					1.6	2.63
21	260	9.1	15					2.0	2.59
22	270	8.0	16					2.0	2.55
23	270	8.0	17					1.8	2.55

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 18

Mundaring, W. Australia (32.0° S, 116.2° E) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.8)	4	275				3.2	----
01		6.3	11	285				>3.0	----
02		6.0	12	<300				>3.0	(2.90)
03		(5.5)	14	290				<1.3	(2.85)
04		>4.9	18	290				3.0	(2.90)
05		4.7	17	290			(1.50)		3.00
06		5.8	19	<260	---		<2.25	2.6	(3.15)
07		6.4	24	240	---		2.90	3.3	3.15
08		7.2	24	235	5.0		3.30	3.8	3.10
09		8.0	26	220	5.3		3.65	4.1	3.05
10		8.2	26	220	5.7		3.85	4.4	2.95
11		>8.5	27	200	5.8		4.00	4.4	2.90
12		>8.5	29	205	6.0		4.00	4.4	2.90
13		>8.5	27	215	5.8		4.00	>4.4	2.90
14		>8.5	27	215	5.9		4.00	4.4	2.90
15		>8.5	29	220	5.7		3.90	4.2	2.95
16		>8.5	30	225	5.4		3.70	4.0	2.95
17		8.0	25	<240	5.0		3.30	3.7	3.00
18		7.9	16	245	---		2.80	3.2	(2.95)
19		(7.0)	1	260				3.0	
20		>7.0	1	260				>3.7	
21		---	0	275				>3.5	
22		---	0	290				<2.5	
23		---	0	290				>3.3	

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 19

Sodankyla, Finland (67.4° N, 26.6° E) December 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1)	1	365				4.8	----
01		(4.8)	2	380				4.9	----
02		(5.0)	1	350				4.4	----
03		(3.6)	1	360				4.3	----
04		(3.9)	1	340				4.0	----
05		(5.5)	4	315				3.4	----
06		(4.3)	4	285				3.4	----
07		(3.7)	3	265				3.5	----
08		(3.2)	3	300				3.9	----
09		(4.2)	9	270		---	E	3.6	(2.80)
10		5.5	13	250		---	E	3.9	2.95
11		7.8	25	240		---	E	4.2	2.95
12		9.2	22	235		---	1.70	4.1	3.10
13		9.5	20	225		---	1.85	4.1	3.10
14		9.3	15	230		---	E	4.2	3.10
15		8.0	12	235		---	E	4.0	3.10
16		7.2	10	235		---	----	3.9	3.00
17		(7.0)	6	245		---	----	4.0	3.10
18		(4.7)	3	255				3.9	----
19		(4.1)	3	275				3.9	----
20		(3.9)	1	320				4.1	----
21		(3.1)	1	325				4.2	----
22		(3.3)	1	370				4.0	----
23		(3.7)	1	350				4.1	----

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 20

Byrd Station (80.0° S, 120.0° W) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	4.8	13	350	---	---	----	3.0	(2.55)
01	---	(4.75)	18	<400		120	----	3.2	(2.52)
02		4.85	12	(365)		119	----	3.2	2.60
03		5.95	14	300		123	----	4.0	2.75
04		5.8	17	(280)		122	2.15		2.85
05		5.9	16	265		117	2.30		2.90
06		6.1	17	260		119	2.45		3.00
07	---	6.15	18	250		117	2.42		3.00
08	---	6.4	19	255		115	2.65		3.00
09	---	6.7	21	245	---	111	2.85		3.00
10	(360)	7.0	25	250	---	113	2.85		3.00
11	(360)	7.5	23	240	4.3	111	2.82		3.10
12	(415)	8.0	23	<256	---	111	2.85		2.98
13	370	8.2	25	(250)	4.2	111	2.85		2.85
14	(500)	7.6	18	(260)	4.2	111	2.85		2.95
15	---	7.1	24	250	---	113	2.72		2.95
16	(435)	6.65	18	300	---	113	2.80		2.88
17	---	(6.7)	18	<300	(4.0)	113	2.70	3.2	(2.65)
18	---	(6.5)	18	300	---	115	2.60	3.0	(2.30)
19	---	6.2	13	300	---	118	----	3.0	(2.80)
20	---	(6.4)	12	290	---	117	----	2.9	(2.70)
21	---	(6.75)	10	305	---	119	2.00	2.7	(2.70)
22	---	(5.3)	14	310	---	121	----	2.6	(2.62)
23	---	(4.9)	14	<330	---	121	----	2.6	(2.65)

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Tromso, Norway (69.7° N, 19.0° E) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.2)	6	---				4.3	----
01		(4.9)	3	---				4.1	----
02		(5.4)	7	---				4.1	(2.30)
03		(4.3)	9	(380)				4.0	(2.40)
04		(4.8)	9	(345)		---	----	4.0	(2.55)
05		4.8	16	(295)		---	----	2.9	2.70
06	(280)	5.4	14	(280)	----	120	2.25	2.4	2.75
07	---	6.1	15	(250)	----	115	2.50		2.75
08	---	6.3	17	250	----	125	2.70		(2.70)
09	---	6.6	18	250	----	130	2.95		2.70
10	(400)	6.8	24	245	4.50	120	2.90		2.60
11	---	7.2	27	245	----	115	3.00		2.60
12	(445)	7.2	29	245	----	115	3.05		2.70
13	---	7.0	30	245	----	110	3.00		2.65
14	---	7.0	27	250	----	120	3.00		2.70
15	---	6.4	26	250		110	2.85		2.70
16	---	6.4	22	265		115	2.70	3.0	2.70
17	---	6.2	24	280		110	2.30	3.4	2.80
18	---	5.7	21	280		125	2.15	3.2	2.80
19		5.4	20	(290)		---	----	3.7	2.65
20		4.8	13	(305)				5.2	(2.45)
21		4.5	13	(345)				5.4	(2.40)
22		(4.5)	9	(345)				4.2	(2.30)
23		(4.8)	8	---				4.2	(2.30)

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 22

Lulea, Sweden (65.6° N, 22.1° E) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.5)	17	340				3.0	----
01		(4.6)	19	355				2.5	----
02		(4.2)	15	355				1.9	----
03		(4.6)	15	320					----
04		(4.4)	19	325					(2.4)
05		4.9	18	280	---	---	2.0		2.85
06	---	5.7	17	260	---	120	2.3		2.75
07	---	6.2	18	250	---	120	2.5		2.8
08	---	6.5	21	240	---	120	2.8		2.7
09	(400)	6.8	27	230	4.4	110	3.0		2.7
10	(530)	6.8	25	230	4.7	110	3.1		2.6
11	(460)	7.1	27	230	4.8	110	3.2		2.7
12	(435)	7.1	26	230	4.8	110	3.1		2.7
13	(420)	7.3	29	230	4.8	110	3.1		2.7
14	---	7.1	27	240	---	110	3.0		2.8
15	---	7.2	28	240	---	120	2.8		2.8
16	---	7.1	26	250		120	2.6		2.9
17		6.8	28	255		120	2.3		2.8
18		6.2	25	260		---	1.9		2.8
19		(5.4)	22	270		---	---	2.2	(2.7)
20		(5.4)	17	265				3.1	(2.6)
21		(5.2)	14	275				3.1	----
22		(5.3)	14	310		---	---	3.4	(2.4)
23		(5.4)	14	350				3.1	----

Time: 15.0°E.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 23

Rome, Italy (41.8° N, 12.5° E) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	22	340				2.4	2.45
01		(6.4)	23	320					(2.50)
02		(6.2)	22	320					(2.45)
03		(6.2)	23	310					(2.45)
04		(5.8)	23	300					(2.50)
05		5.3	22	320					2.60
06	---	5.8	22	260	---	160	1.8		2.85
07	---	(7.9)	21	250	---	120	2.5	3.0	(3.05)
08	---	(8.2)	18	240	---	110	3.0		(3.10)
09	---	(9.2)	21	230	---	110	3.4		(3.00)
10	---	9.9	22	220	---	110	3.6		2.90
11	---	(10.1)	23	220	---	110	3.8		(2.90)
12		10.4	25	220		110	3.8		2.80
13		10.8	25	220		110	3.8		2.80
14		10.3	23	230		110	3.7		2.80
15		(10.2)	20	240		110	3.5		(2.80)
16		10.2	22	240		110	3.2		2.85
17		(10.2)	23	250		120	2.7		(2.95)
18		(9.9)	17	260		130	2.0	3.3	(2.95)
19		(9.6)	18	250				3.1	(3.00)
20		(8.8)	20	250				2.6	(2.90)
21		(8.0)	15	260				2.7	2.70
22		(6.8)	20	270				2.8	(2.60)
23		(6.7)	21	310				2.3	(2.50)

Time: 15.0°E.
Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 24

Bogota, Colombia (4.5° N, 74.2° W) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	25	240					3.12
01		9.0	24	220					3.20
02		6.7	24	235					3.00
03		5.6	23	230					3.05
04		5.1	23	240				1.7	2.90
05		4.05	24	<275				1.8	2.70
06		6.1	24	265		---	2.00	2.2	2.85
07		9.1	25	240		111	2.85	4.5	3.05
08		10.9	27	225		109	3.45	4.4	2.85
09		12.8	26	220		109	3.85	4.4	2.75
10	---	>13.1	26	215	---	111	4.05	4.5	2.70
11	---	13.85	26	215	---	109	4.20	4.6	2.70
12	---	15.1	25	(215)	---	110	4.20	4.8	2.65
13	(420)	15.6	25	(215)	---	109	4.20	4.7	2.65
14	395	16.1	25	(225)	---	109	(4.00)	4.8	2.65
15	(390)	15.9	26	(230)	---	109	3.78	4.6	2.65
16	(350)	15.0	25	235	---	109	3.40	4.7	2.65
17	---	15.4	25	250		110	2.65	4.0	2.65
18		15.5	26	270		---	(1.65)	4.2	2.65
19		16.1	25	290				2.5	2.70
20		16.6	25	260				2.2	2.75
21		>16.0	25	240					2.80
22		14.2	27	240					2.90
23		12.15	24	240					3.05

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 25

Townsville, Australia (19.3° S, 146.7° E) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.5	3	250				1.9	
01		>8.0	8	250					
02		(6.6)	10	250					----
03		>5.7	8	270					----
04		(5.9)	11	200					----
05		>6.0	12	300					(2.75)
06		>6.2	2	200			<1.70		
07		>9.5	5	250			2.60		
08		>11.0	12	240			3.20		(3.15)
09		13.0	12	230			3.50	3.9	2.95
10		13.2	13	225			3.70	4.0	3.00
11	260	>13.1	12	(225)			3.90	4.5	2.90
12		12.5	13	(220)			(4.00)	4.2	2.00
13		12.0	15	220			(4.00)	4.3	2.65
14		11.8	15	220			(3.80)	4.2	2.70
15		11.5	13	230			3.55	4.1	(2.70)
16		11.4	11	240			3.30	3.0	(2.70)
17		>11.0	12	250			2.80	3.3	(2.85)
18		>10.2	8	270			(2.00)		----
19		>10.0	4	275					
20		>9.5	1	275					
21		>9.0	1	270					
22		>9.5	1	270					
23		(9.4)	3	265					

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 26

Brisbane, Australia (27.5° S, 152.9° E) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.6	30	250				2.0	2.75
01		7.3	30	260				2.0	2.75
02		6.7	29	250					2.65
03		6.5	29	260				2.0	2.65
04		6.3	29	290				2.0	2.60
05		6.2	30	270					2.70
06		8.1	30	250			2.05		3.00
07		10.8	30	235			2.80		3.15
08		11.8	30	230			3.30		3.00
09		12.7	30	225			3.60	3.0	2.95
10		12.4	30	220			3.80	4.0	2.85
11		12.2	29	220			3.90	4.2	2.85
12		12.0	29	215			3.90	4.2	2.80
13		11.8	30	210			3.80	4.1	2.70
14		11.7	29	210			3.80	3.9	2.75
15		11.0	30	230			3.50	4.0	2.70
16		10.9	30	240			3.00	3.2	2.75
17		10.6	30	250			2.40		2.75
18		10.2	30	250			<1.60		2.75
19		9.5	29	250					2.75
20		9.2	29	260					2.70
21		9.0	30	260					2.75
22		8.5	29	260					2.75
23		8.2	30	260					2.80

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 27

Nurmijarvi, Finland (60.5° N, 24.6° E) August 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.8)	8						(2.65)
01		(5.7)	5						(2.55)
02		(5.4)	4						----
03		(4.6)	4						----
04		(4.4)	2						----
05		5.0	10				----		2.75
06		5.6	18		---		----		2.80
07		6.0	25		4.3		2.75		2.80
08		6.6	25		4.7		3.00		2.75
09		7.7	21		4.9		3.30		2.75
10		7.7	27		5.1		3.40		2.70
11		7.9	27		5.2		3.60		2.70
12		7.5	26		5.3		----		2.70
13		7.5	29		5.4		----		2.70
14		7.5	30		5.4		----		2.75
15		7.6	29		5.4		----		2.75
16		7.5	29		---		----		2.75
17		7.2	31		---		----		2.00
18		7.4	28				----		2.80
19		7.4	28						2.05
20		7.6	22						2.90
21		7.3	21						2.80
22		6.8	10						2.70
23		(5.9)	7						(2.60)

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 20

Sodankyla, Finland (67.4° N, 26.6° E) July 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.0)	8	360		---	----	4.2	(2.65)
01		(5.9)	7	350		---	----	4.2	(2.60)
02		5.6	11	365		---	----	4.3	2.55
03		6.9	11	355		---	----	4.2	2.60
04		8.1	12	300		---	----	4.4	2.60
05		8.1	12	260	---	110	2.60	4.6	2.52
06		8.2	17	240	4.2	115	2.85	4.6	2.50
07		8.2	17	240	4.3	115	3.10	4.4	2.55
08		8.5	15	230	4.6	110	3.25	4.5	2.50
09		8.6	18	235	4.8	110	3.35	4.8	2.45
10		8.6	21	225	5.0	110	3.40	4.6	2.40
11		8.8	20	220	5.1	110	3.50		2.45
12		8.6	20	220	5.1	110	3.50	4.1	2.50
13		8.7	20	220	5.1	110	3.60	4.3	2.55
14		8.5	21	220	5.1	115	3.50	4.1	2.55
15		8.4	21	225	---	115	3.40		2.60
16		8.4	19	220	---	110	3.30	4.4	2.60
17		8.4	18	230	---	115	3.20	4.4	2.72
18		8.5	20	240	---	110	3.00	4.2	2.75
19		8.5	19	25?		115	2.70	4.2	2.80
20		8.6	17	270		115	2.70	4.1	2.80
21		8.4	14	310		---	----	4.2	2.72
22		8.2	14	305		---	2.30	3.9	2.66
23		(8.0)	8	320		---	----	4.6	(2.72)

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 6 minutes, automatic operation.

Table 29

Lycksele, Sweden (64.6° N, 18.8° E) July 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.0	25	320		---	1.40	4.0	2.5
01	---	5.7	23	330	---	---	1.60	3.5	2.5
02	(400)	5.8	21	320	2.6	---	2.00	3.6	2.5
03	390	5.7	21	300	3.2	---	2.10	3.6	2.5
04	400	6.0	20	250	3.8	---	2.20	4.4	2.4
05	395	6.0	24	250	4.1	105	2.55	5.0	2.5
06	400	6.0	22	235	4.5	105	2.70	4.9	2.6
07	450	6.2	24	230	4.7	105	3.00	4.6	2.5
08	450	6.4	24	230	4.8	105	3.30	5.0	2.5
09	455	6.6	26	225	5.0	100	3.40	5.4	2.5
10	460	6.7	25	220	(5.2)	105	3.50	5.5	2.5
11	445	6.6	25	220	(5.2)	105	3.50	6.0	2.5
12	440	6.6	26	220	(5.2)	100	3.60	5.6	2.5
13	440	6.6	25	220	(5.2)	105	3.50	6.0	2.6
14	450	6.5	24	215	(5.2)	105	3.40	5.4	2.5
15	400	6.4	25	220	(5.0)	100	3.35	6.0	2.6
16	410	6.5	25	225	5.0	105	3.25	5.1	2.6
17	370	6.5	26	230	4.8	105	3.00	4.9	2.7
18	330	6.4	24	245	4.5	110	2.60	4.8	2.7
19	320	6.4	24	255	4.0	110	2.35	4.4	2.7
20	---	6.5	25	275	---	---	1.95	3.4	2.7
21	---	6.0	24	290	---	---	1.70	3.4	2.7
22		5.9	24	300		115	1.40	3.6	2.6
23		6.0	22	315		---	1.30	3.2	2.5

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes, automatic operation. Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 30

Canberra, Australia (35.3° S, 149.0° E) July 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.6	26	250					2.80
01		4.8	25	250					2.00
02		4.6	24	250					2.80
03		5.0	24	250					2.80
04		>4.5	24	240					2.95
05		4.0	23	200					3.00
06		3.7	23	210					2.90
07		5.4	23	220			<1.60		3.00
08		>8.5	22	200			2.50		(3.20)
09		>10.0	19	200			3.05	3.2	----
10		>10.5	17	200			3.30	3.6	----
11		>11.0	18	200			3.50	3.7	----
12		>10.0	19	200			3.65	3.7	----
13		>10.8	16	210			3.60	3.8	----
14		>11.0	21	200			3.30	3.8	----
15		11.0	21	210			3.10	3.8	(3.15)
16		>10.0	21	210			2.65	3.0	----
17		>9.5	25	210			1.90	2.1	----
18		>9.5	26	200					3.10
19		>7.5	26	200					3.00
20		>6.5	25	210					2.90
21		>5.5	26	210					2.80
22		5.3	26	230					2.80
23		5.0	26	240					2.80

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 31

Freiburg, Germany (48.1° N, 7.6° E) February 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.4	26	285					2.46
01		5.3	27	295					2.43
02		5.0	27	300					2.48
03		4.9	28	290					2.50
04		4.4	28	280					2.57
05		4.0	28	270					2.55
06		4.4	28	265					2.58
07		8.0	28	230		121	1.70	1.9	2.98
08		10.8	27	225		114	2.50	2.6	3.08
09		12.6	27	225		111	3.00	3.1	2.99
10	---	13.6	27	225	---	111	3.25	3.3	2.92
11	---	13.4	27	225	---	109	3.40	3.5	2.88
12		13.5	27	225	---	109	3.40	3.4	2.85
13		13.4	27	225		111	3.30	3.4	2.82
14		12.7	20	230		111	3.15	3.3	2.87
15		12.6	27	230		115	2.80	3.1	2.87
16		11.6	27	225		121	2.25	2.7	2.92
17		10.8	27	220		---	E	2.0	2.95
18		9.2	20	220				1.7	2.90
19		7.7	28	225					2.91
20		7.0	20	240					2.79
21		6.4	28	270					2.68
22		5.8	28	270					2.60
23		5.6	28	275					2.58

Time: 0.0°.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 32

Eureka, Canada (80.0° N, 85.9° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.5	25	280					
01		5.9	30	280					
02		5.6	30	280					
03		5.2	28	280					
04		5.7	27	280					
05		5.2	25	270					
06		5.2	22	280					
07		4.7	26	270					
08		5.0	26	270					
09		5.3	25	270					
10		6.4	28	270					
11		6.6	30	260					
12		6.5	27	250					
13		6.7	28	250					
14		7.0	25	250					
15		6.6	26	260					
16		6.0	24	250					
17		6.3	25	270					
18		6.2	26	260					
19		6.2	30	260					
20		6.2	26	270					
21		6.2	24	270					
22		5.2	27	270					
23		5.2	26	290					

Time: 75.0°W.
Sweep: 1.9 Mc to 20.0 Mc in 15 seconds

Table 33

Svalbard, Norway (70.2° N, 15.7° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.6)	5	255		---	E	1.4	----
01		(4.4)	8	290		---	----	1.7	----
02		(4.0)	7	260		---	----	2.3	(2.40)
03		(4.2)	9	310		---	----	3.1	----
04		4.0	10	290		---	----	2.8	(2.40)
05		(3.9)	9	300		---	1.70	3.2	----
06		4.2	10	290		---	1.70	3.2	(2.60)
07		(4.4)	14	300		---	2.05	3.0	(2.55)
08		4.2	12	300		---	----	2.9	(2.60)
09		(4.4)	14	290		---	(1.90)	2.8	(2.80)
10		4.0	12	280		---	----	2.7	2.70
11		(5.3)	8	275		---	(2.20)	2.9	(2.75)
12		4.0	15	285		---	----	3.2	2.70
13		4.0	14	265		130	(1.75)	3.2	2.90
14		(4.0)	5	260		125	2.15	3.3	(2.60)
15		(4.4)	9	260		130	2.20	3.3	(3.00)
16		(4.2)	7	260		135	1.70	3.1	(2.80)
17		(4.3)	9	270		---	----	3.2	(2.45)
18		(4.4)	11	260		---	----	2.6	(2.65)
19		(4.5)	4	250		---	E	2.6	----
20		(4.4)	3	250		---	E	1.4	----
21		(4.0)	2	250		---	E		----
22		(4.2)	4	250		---	E		----
23		(4.4)	6	250		---	E	1.4	----

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 34

Frobisher, Canada (63.8° N, 68.6° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.1	20	290					
01		5.2	26	300					
02		5.1	27	290					
03		4.9	26	300		---	---		
04		4.5	22	280		---	---		
05		4.6	22	300		---	---		
06		4.5	18	290		---	---		
07		4.6	21	300		---	---	3.0	
08		5.6	23	290		---	---		
09		7.7	22	270		---	---		
10		10.1	27	250		---	---		
11		12.0	25	250		---	---		
12		10.2	24	250		---	---		
13		8.2	26	260		---	2.1		
14		8.1	25	280		---	---		
15		7.9	22	270		---	---		
16		7.0	22	270		---	---		
17		6.2	23	270					
18		5.6	18	270				3.8	
19		6.2	24	270				3.6	
20		5.2	23	270				4.2	
21		5.1	27	290				3.8	
22		5.2	26	280					
23		4.8	25	280					

Time: 75.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 35

Yellowknife, Canada (62.4° N, 114.4° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(4.8)	8	(310)		---	---	6.4	
01		(5.0)	8	(320)		---	---	6.0	
02		(4.4)	8	(300)		---	---	5.0	
03		(4.1)	9	(300)		---	---	4.7	
04		(4.2)	9	(310)		---	---	4.0	
05		4.0	10	(330)		---	---	3.2	
06		(4.4)	9	(380)				3.5	
07		(4.4)	8	(300)				3.0	
08		(4.4)	8	(350)				(3.1)	
09		(6.2)	6	(310)				(3.6)	
10		(6.8)	8	(290)		---	---	(3.0)	
11		8.2	10	(280)		---	---		
12		9.8	11	270		---	---		
13		10.7	11	270		---	---		
14		11.7	11	250		---	---		
15		12.8	10	250		---	2.3		
16		(12.9)	9	260		---	2.0		
17		(10.5)	9	260		---	---		
18		6.4	10	(280)		---	---		
19		(5.8)	7	200				3.6	
20		(6.9)	8	(300)				4.0	
21		(5.2)	8	300		---	---	3.5	
22		4.6	10	(300)		---	---	4.6	
23		(4.5)	0	(300)		---	---	6.0	

Time: 105.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 36

Juluisruh/Rügen, Germany (54.6° N, 13.4° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	26	<300			E		2.50
01		3.9	26	<300			E		2.45
02		3.5	29	<310			E		2.45
03		3.2	27	<310			E		2.45
04		3.2	30	<300			E	1.1	2.55
05		3.3	29	<285			E	1.0	2.65
06		3.3	27	<270			E		2.70
07		3.3	27	(275)			----		2.70
08		6.7	25	260			1.70		2.85
09		10.5	27	230			2.35		3.10
10		12.5	25	230			2.70		3.10
11		13.6	21	230			3.00		3.00
12		14.0	26	230			----		2.95
13		14.2	24	240			----		2.95
14		14.1	25	230			----		2.95
15		13.2	26	225			2.45		2.90
16		12.6	28	230			1.85		2.90
17		10.7	27	225			----		2.90
18		8.8	27	220					2.90
19		6.9	29	(235)					2.90
20		6.0	28	(250)					2.75
21		5.1	29	<270					2.65
22		4.5	27	<300					2.60
23		4.4	27	<300					2.60

Time: 15.0°E.
Sweep: 0.5 Mc to 20.0 Mc in 20 seconds.

Table 37

Seamook, Canada (44.6° N, 113.3° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		7.2	28	270		---	---		
01		7.1	28	290		---	---	2.3	
02		6.7	27	300		---	---	2.5	
03		6.2	28	300		---	---	2.9	
04		6.2	26	300		---	---	3.0	
05		6.6	26	280		---	---	2.9	
06		6.2	27	290		---	---		
07		6.1	26	300		---	---		
08		6.0	26	260		---	E		
09		7.0	28	250		120	2.1		
10		10.0	28	230		120	2.5		
11		11.6	29	220		110	2.8		
12		12.0	29	220		110	2.9		
13		12.5	29	220		110	3.0		
14		12.7	29	220		110	2.9		
15		12.3	29	220		110	2.6		
16		12.1	29	220		---	2.1		
17		12.1	29	220		---	E		
18		10.8	28	230		---	---		
19		9.0	28	220		---	---		
20		7.6	27	240		---	---		
21		6.1	26	250					
22		5.0	27	240				2.4	
23		4.5	24	270				2.4	

Time: 105.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 15 seconds.

Table 38

Lindau/Harz, Germany (51.6° N, 10.1° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.20	29	286					2.64
01		4.17	28	288					2.58
02		3.90	27	307					2.48
03		3.80	27	313					2.46
04		3.50	30	300					2.57
05		3.49	31	276					2.66
06		3.31	31	256					2.67
07		3.35	31	250		---	---		2.70
08		6.45	31	237		---	E	2.3	2.46
09		10.70	31	230		---	2.10	3.2	3.10
10		13.00	29	229		---	2.70	3.0	3.11
11		13.57	30	224		---	3.02		3.04
12		13.60	31	226		---	3.15		2.96
13		13.90	31	231		---	3.12		2.90
14		13.95	31	232		---	2.90		2.90
15		13.40	31	228		---	2.68		2.90
16		12.61	31	224		---	2.36	2.0	2.93
17		11.20	31	221		---	E		2.96
18		9.45	31	221					2.94
19		7.60	31	228					2.92
20		6.10	31	243					2.80
21		5.49	31	253					2.73
22		4.17	31	256					2.70
23		4.50	30	280					2.59

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 39

Dourbes, Belgium (50.1° N, 4.6° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.0	27	290				1.4	2.55
01		3.7	27	300					2.45
02		3.8	26	310					2.45
03		3.6	27	300					2.50
04		3.6	27	290				<1.3	2.60
05		3.3	27	270				<1.6	2.70
06		3.3	27	265				<1.6	2.75
07		(4.7)	27	240		---	<1.60	<1.6	(2.75)
08		9.4	27	230		131	2.10	<2.2	(3.05)
09		12.2	22	230		121	2.60		3.10
10	---	13.0	28	230		117	2.95		3.10
11	---	13.4	27	225		117	(3.10)	<3.2	3.00
12		13.0	29	230		117	(3.10)	(3.1)	2.90
13		13.0	28	235		<119	3.10	<3.8	2.90
14		13.0	30	235		117	2.80	<3.0	2.95
15		12.2	30	230		<121	2.55		2.85
16		11.3	29	230		<133	<1.60	1.7	2.90
17		9.8	28	225				<1.6	2.90
18		7.8	28	230				<1.6	(2.90)
19		(6.5)	27	240				<1.6	(2.80)
20		5.6	26	245				<1.6	2.70
21		(4.8)	27	260				<1.6	(2.70)
22		4.6	26	280				<1.6	2.60
23		(4.4)	27	290				<1.6	(2.60)

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 40

Victoria, Canada (48.4° N, 123.4° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.9	29	300					
01		3.5	30	300					
02		3.5	30	310					
03		3.3	30	320					
04		3.3	29	330					
05		3.3	27	310					
06		3.3	26	310					
07		3.5	27	300					
08		6.4	28	240		---	2.2		
09		9.8	22	230		---	2.7		
10		12.3	22	230		120	3.0		
11		13.1	21	230		110	3.1		
12		13.6	22	220		110	3.1		
13		13.2	22	220		110	3.2		
14		13.5	23	230		110	3.1		
15		13.1	21	230		110	2.9		
16		(12.0)	14	220		---	2.5		
17		11.5	16	230		---	---		
18		10.1	19	220					
19		8.9	28	220					
20		7.2	30	220					
21		5.8	30	230					
22		4.4	30	250					
23		4.1	30	270					

Time: 120.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 15 seconds.

Table 41

Freiburg, Germany (48.1° N, 7.6° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.2	30	280					2.64
01		4.1	31	295					2.50
02		4.0	31	300					2.50
03		4.1	29	300					2.52
04		4.0	31	270					2.69
05		3.7	31	260					2.67
06		3.7	29	250					2.79
07		6.6	30	230		---	<1.30	1.5	2.92
08		10.8	31	225		121	2.35	2.4	3.14
09		13.4	31	225		115	2.80		3.10
10		(13.7)	30	220		113	3.10	3.1	(3.04)
11		13.6	29	220		111	3.20		(2.94)
12		(13.6)	31	220		113	3.20		(2.88)
13		13.4	31	230		115	3.15		2.87
14		12.6	29	230		118	2.90	2.9	2.91
15		12.4	30	225		125	2.35	2.7	2.93
16		11.2	31	220		---	1.70	1.8	2.93
17		9.8	30	215				1.4	2.95
18		7.8	29	225					2.92
19		6.4	29	230					2.80
20		5.5	29	250					2.76
21		5.2	30	260					2.70
22		4.6	30	270					2.64
23		4.6	31	280					2.60

Time: 0.0°.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 42

Genova-Monte Capellino, Italy (44.6° N, 9.0° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	30	275					2.46
01		5.4	30	280					2.51
02		4.9	30	290					2.40
03		4.8	29	295					2.39
04		4.8	29	285					2.46
05		4.6	29	270					2.55
06		4.1	29	255					2.68
07		4.6	29	240					2.64
08		9.2	30	225			1.8	2.0	2.72
09		13.6	30	220			2.5	2.6	2.82
10		15.1	30	225			3.1		2.88
11		15.1	31	225			3.3		2.83
12		14.8	30	225			3.4		2.72
13		14.4	30	225			3.4		2.67
14		14.4	30	230			3.3		2.60
15		13.9	29	225			3.0		2.62
16		13.4	29	225			2.5		2.58
17		12.5	29	230				1.1	2.66
18		10.0	29	230					2.73
19		8.9	29	230					2.64
20		7.4	30	235					2.59
21		6.3	30	245					2.51
22		5.0	30	270					2.46
23		5.6	30	270					2.51

Time: 15.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 5 minutes, automatic operation.

Table 43

Djibouti, French Somaliland (11.6° N, 43.2° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.3)	9	270				3.5	----
01		(10.6)	13	260				3.5	(2.75)
02		>9.1	20	250		---	----	2.2	(2.85)
03		8.2	22	240		---	E	2.0	(3.00)
04		7.8	24	230		---	E	2.0	3.05
05		6.5	26	225		---	E	1.9	3.15
06		4.9	25	225		---	E	1.9	3.25
07		8.5	27	270		125	2.15	3.5	(3.00)
08		(11.4)	24	250		115	3.05	3.6	2.90
09		>13.3	13	240		---	3.60	6.7	(2.75)
10		(13.0)	10	230		---	4.00	10.0	(2.35)
11	---	>12.3	23	225	---	---	(4.20)	10.0	(2.15)
12		11.7	25	220		---	----	10.0	(2.10)
13		11.7	23	<225		---	----	10.0	2.10
14		>11.6	22	230		---	4.10	10.0	2.10
15		>11.6	20	240		110	(3.85)	6.7	2.10
16		11.6	10	250		110	3.40	6.8	(2.10)
17		(11.4)	13	260		120	(2.90)	5.8	(2.10)
18		>10.4	14	300		---	(1.70)	3.5	----
19		9.3	15	385		---	E		2.00
20		>9.5	9	(380)		---	----		----
21		(9.3)	9	<310		---	----	2.0	----
22		>9.0	8	295				3.5	----
23		>9.0	8	<285				2.3	----

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 44

Tananarive, Madagascar (18.0° S, 47.5° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0	24	280		---	E	2.4	2.60
01		7.2	26	<280		---	----	2.4	2.60
02		6.7	25	<285		---	E	2.3	2.60
03		6.4	25	(280)		---	E	2.4	2.60
04		5.7	25	(280)		---	E	2.4	2.55
05		5.5	26	310		---	E	2.4	2.50
06		7.0	24	260		120	2.30	2.9	2.70
07	---	8.6	24	250	---	115	3.20		2.70
08	(320)	(10.3)	17	245	---	115	3.60		(2.55)
09	---	11.1	19	240	---	110	4.00		2.40
10	440	11.6	16	---	---	115	4.20	(4.2)	2.40
11	430	12.1	17	---	---	---	----		2.35
12	430	11.9	22	---	---	---	----		2.35
13	425	11.9	21	---	(6.3)	---	----		2.35
14	425	11.4	19	---	---	110	(4.25)	(5.0)	2.40
15	430	(10.0)	23	230	(6.0)	115	4.00	4.4	2.30
16	430	10.4	25	240	(5.6)	115	3.60	3.7	2.35
17	---	10.0	24	250	---	115	3.10	3.5	2.40
18		>9.4	24	285		125	2.30	3.0	(2.45)
19		10.0	24	300		---	----	3.2	2.50
20		10.0	22	<305		---	----	2.7	2.50
21		>9.2	23	300		---	----	2.7	2.55
22		9.0	24	<300		---	----	2.5	2.55
23		8.5	25	290		---	E	2.4	2.60

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 45

Sao Paulo, Brazil (23.5° S, 46.5° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		13.5	15	295					2.80
01		13.4	14	270					2.90
02		11.1	20	245					2.80
03		9.8	21	260					2.80
04		0.2	22	235					2.90
05		6.9	19	260					2.50
06		7.7	21	250			----		2.75
07		0.9	25	240			3.25		2.65
08		9.6	22	230			----		2.50
09		10.0	24	230			----		2.35
10	---	(10.0)	22	<240	---		----		(2.30)
11	---	(11.4)	22	---	6.8		----		(2.30)
12	---	(11.8)	16	---	---		----		2.30
13	495	12.0	16	---	6.6		----		2.35
14	465	13.6	20	---	6.6		----		2.35
15	465	13.5	20	(210)	6.4		----		2.30
16	460	13.3	19	(235)	---		----		2.35
17	(450)	(13.0)	21	240	---		----		2.40
18		12.9	24	260			----		2.30
19		13.0	25	325					2.35
20		12.2	16	425					2.25
21		(12.4)	5	300					----
22		(13.5)	9	330					(2.50)
23		>13.2	8	315					(2.60)

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 46

Grahamstown, Union of S. Africa (33.3° S, 26.5° E) January 1959

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	foEs	(M3000)F2
00		(5.70)	21					2.0	(2.8)
01		(5.50)	19					<2.0	2.7
02		(5.36)	20					2.2	(2.8)
03		4.06	19					2.0	2.7
04		4.46	19					<2.0	2.8
05		(4.60)	18						(2.75)
06		(6.60)	19			130	---		(3.3)
07		(7.80)	8	---		(130)	(3.1)		(3.2)
08		(9.10)	4	250		<135	(3.6)		---
09		(10.80)	5	---		<135	---		---
10		(11.00)	9	---		---	---		(2.7)
11		(11.10)	11	---		---	---		(2.7)
12		(11.30)	8	---		---	---		(2.7)
13		(11.00)	7	---		---	---		(2.7)
14		(11.00)	5	---		---	---		---
15		(7.20)	4	---		---	---		---
16		(7.20)	5	---		---	---		---
17		(7.30)	5	250		---	(3.4)	3.0	(2.7)
18		(7.32)	6	275		125	(2.9)		---
19		(6.90)	4			130	---	1.9	---
20		(6.00)	4					<2.0	---
21		(6.90)	12						(2.95)
22		(6.60)	18						(2.9)
23		(6.00)	21					1.9	(2.8)

Time: 30.0°E.
Sweep: 1.5 Mc to 15.0 Mc.

Table 47

Buenos Aires, Argentina (34.5° S, 58.5° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	19	330				3.4	2.50
01		9.6	18	300				2.6	2.60
02		9.5	19	280					2.60
03		8.8	19	300					<2.50
04		8.4	17	300				1.8	2.40
05		8.2	17	295		138	1.80	2.3	2.30
06		9.0	17	250		115	----	3.4	2.50
07		9.5	16	240		111	----	3.8	2.40
08	---	(10.1)	13	230		111	----		(2.30)
09	---	11.1	13	(225)	---	---	----		2.25
10	(440)	(11.5)	15	(230)	---	---	----		2.30
11	(435)	12.2	11	(240)	---	---	----		2.40
12	440	12.8	14	(240)	6.4	---	----		2.40
13	430	13.2	14	---	---	---	----		2.45
14	400	13.1	14	---	---	---	----		2.50
15	400	12.6	12	(230)	6.2	---	----		2.50
16	400	12.1	14	230	---	---	----		2.55
17	(370)	11.6	18	250		(111)	----	4.2	2.50
18		11.0	19	270		(115)	----		2.55
19		11.2	17	310		---	----		2.50
20		(11.2)	17	360					2.40
21		11.4	18	375					2.30
22		>11.0	17	370					2.35
23		11.0	14	350					2.40

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 48

Canberra, Australia (35.3° S, 149.0° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.8	29	<260				3.6	(2.65)
01		7.5	28	270				3.7	2.70
02		7.1	29	270				3.2	2.70
03		6.0	29	280				2.2	2.70
04		6.5	29	270				2.2	2.70
05	---	6.4	29	260	---		1.55	2.1	2.80
06	---	(7.0)	29	240	---		2.60	3.0	2.90
07	(420)	7.6	28	210	5.0		3.25	4.0	2.90
08	395	7.8	20	210	5.6		3.60	4.3	2.80
09	375	8.3	25	210	6.0		4.00	4.5	2.80
10	400	8.3	27	210	6.2		4.10	4.5	2.70
11	400	8.6	25	(215)	6.5		4.20	4.6	2.60
12	405	0.6	27	(210)	6.4		4.20	4.5	2.60
13	405	8.8	26	(210)	6.4		4.10	4.6	2.60
14	420	0.6	23	210	6.4		4.10	4.5	2.55
15	405	8.6	23	210	6.1		4.05	4.5	2.65
16	390	0.5	21	200	6.0		3.80	4.3	2.65
17	375	0.4	27	210	5.6		3.50	3.8	2.70
18		7.9	27	230	---		2.85	3.6	2.75
19		0.0	27	<260			2.05	3.6	2.75
20		(7.6)	27	<200				3.3	(2.70)
21		>0.0	29	<295				3.5	(2.65)
22		(8.5)	29	275				3.7	(2.70)
23		(0.2)	29	270				3.5	(2.75)

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 49

Ushuaia, Argentina (54.8° S, 68.3° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.1	25	360		---	E		2.30
01		>9.0	24	340		---	E	3.1	2.30
02		9.1	25	350		---	E	2.8	2.30
03		9.2	25	350		---	E		2.30
04	---	>9.0	25	360		---	1.55		2.25
05	---	9.0	25	320	---	145	2.20	2.6	2.30
06	(425)	>9.2	25	205	---	119	3.00	3.8	2.30
07	(440)	(0.9)	25	270	---	111	3.40	4.0	2.30
08	(445)	(8.9)	22	(260)	---	109	----	5.2	(2.25)
09	420	9.0	17	---	---	109	----	5.0	(2.30)
10	(410)	(9.0)	9	---	---	108	----	5.6	----
11	---	>9.2	5	---	---	---	----	(7.0)	----
12	(460)	>8.7	6	---	---	---	----		----
13	(400)	>8.8	6	---	---	---	----		----
14	---	(8.2)	3	---	---	---	----		----
15	---	(8.3)	5	---	---	---	----	(5.3)	(2.40)
16	(440)	8.3	13	---	---	105	----		2.45
17	---	8.2	19	---	---	111	----	4.0	2.40
18	---	8.2	20	---	---	111	----	5.0	2.40
19	---	8.2	23	(290)		115	----	4.6	2.40
20		8.2	24	305		119	----	3.8	2.40
21		8.3	25	350		---	----	3.7	2.35
22		8.8	24	310		---	----	3.4	2.30
23		>9.0	25	375		---	E	3.3	2.25

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 50

Port Lockroy (64.8° S, 63.5° W) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.0	31	335			---	1.9	2.35
01		10.4	31	335			---	1.9	2.35
02		10.5	30	<340			1.7	1.9	2.35
03		10.5	28	320			2.0	2.2	2.30
04		10.8	31	300			(2.2)	2.7	2.30
05		10.4	30	275			(2.6)	3.1	2.35
06		10.2	30	<260			(3.0)	3.4	2.35
07		9.7	29	(255)			---	3.0	2.35
08		9.0	31	(250)			(3.6)	4.3	2.40
09		8.6	30	<250			(3.7)	(5.2)	2.40
10		0.5	27	<250			(3.8)	5.6	2.45
11		8.1	29	<250			(4.0)	5.5	2.45
12		8.0	30	<250			(4.0)	5.8	2.45
13		7.5	29	(245)			(4.0)	(5.2)	2.45
14		7.6	30	<255			(3.9)	5.8	2.45
15		7.5	27	<250			(3.8)	5.3	2.50
16		7.4	28	<255			---	5.3	2.50
17		7.5	25	(265)			---	5.0	2.65
18		7.4	28	(265)			(3.3)	4.8	2.60
19		7.6	30	<275			(2.9)	4.1	2.60
20		7.9	27	(280)			(2.5)	4.0	2.55
21		8.4	29	(300)			1.9	2.6	2.45
22		8.9	29	(320)			---	2.6	2.35
23		9.6	27	<330				3.0	2.35

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 51

Yellowknife, Canada (62.4° N, 114.4° W) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.2	22	300		---	---	4.0	
01		5.4	25	290		---	---	5.0	
02		5.1	24	300		---	---	4.5	
03		5.0	25	300		---	---	4.0	
04		5.1	23	300		---	---	4.0	
05		5.1	22	310		---	2.0	3.8	
06		5.0	22	350		120	2.3	4.0	
07		5.0	25	350		---	---	3.3	
08		6.0	23	300		---	2.0	3.8	
09		7.1	25	290		---	2.0	4.0	
10		8.8	25	260		---	2.5	3.0	
11		10.0	26	260		110	2.7		
12		11.2	28	250		120	2.8		
13		12.9	29	250		110	2.7		
14		13.2	28	240		120	2.5		
15		13.5	20	240		120	2.2		
16		13.3	29	230		140	1.0		
17		12.2	27	230		---	E		
18		10.2	27	230		---	---		
19		7.4	27	270		---	---	3.0	
20		5.9	24	290		120	2.1	3.0	
21		6.2	28	290		120	2.3	3.3	
22		5.0	24	280		120	2.0	3.3	
23		5.5	23	280		130	2.5	4.0	

Time: 105.0°W.
Sweep: 1.6 Mc to 20. 0 Mc in 15 seconds.

Table 52

La Quiaca, Argentina (22.1° S, 65.6° W) September 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>11.9	8	200					
01		>10.0	11	200					
02		>10.2	13	200					----
03		>8.2	12	200					(2.80)
04		6.8	12	215					(2.80)
05		>6.0	9	230					(2.90)
06		>6.0	8	250					(2.60)
07		>9.2	12	240		105	(2.40)	2.7	----
08		12.0	10	220		103	----		
09		>12.0	11	205		103	----		
10		>12.6	11	---		---	----		
11	---	>12.2	10	---		---	----		
12	---	>12.2	13	---		---	----		
13	---	>12.0	13	---	---	---	----		
14	---	>11.7	11	---	---	---	----	4.8	
15	---	>12.0	12	---	---	---	----		
16	---	>11.8	12	(210)		103	----		
17	---	>9.8	13	240		103	(3.90)		
18		>9.0	7	(275)		---	----	3.2	
19		>8.4	3	---					
20		>9.0	3	---					
21		>10.4	3	---					
22		>11.8	4	---					
23		>11.9	8	210					

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 53

Tucuman, Argentina (26.9° S, 65.4° W) September 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		17.4	28	235					3.10
01		>17.0	28	235					3.20
02		14.6	28	220					3.30
03		>10.0	28	205		---	----		3.25
04		7.0	28	220		---	1.20		2.95
05		6.2	28	245		131	1.25		2.95
06		6.4	28	265		(135)	1.45		2.90
07		10.3	28	245		(115)	2.55		3.20
08		12.7	28	235		105	3.15		3.15
09		13.0	28	225		101	3.70		3.05
10		14.3	27	<225		101	4.00		2.90
11	---	14.4	28	<220		101	----		2.70
12	(400)	14.0	28	<215	---	101	----		2.60
13	455	15.2	27	<215	7.3	(101)	----		2.50
14	440	15.4	29	<215	7.2	(101)	----		2.50
15	445	15.7	29	<230	6.9	105	3.90		2.50
16	430	(15.6)	29	235	---	<107	3.50		(2.50)
17	430	(15.5)	28	250	---	115	2.90		(2.50)
18		>15.0	29	275		<150	2.00		(2.45)
19		(14.8)	29	350					(2.30)
20		(14.8)	29	350					(2.30)
21		>15.0	29	290					(2.55)
22		(15.7)	29	270					(2.70)
23		(17.3)	28	250					(2.95)

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 54

Ushuaia, Argentina (54.0° S, 68.3° W) September 1950

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.8	25	335		---	----		2.35
01		7.7	26	340		---	----		2.30
02		7.2	26	320		---	----		2.35
03		7.4	25	310		---	----		2.40
04		7.0	24	300		---	E		2.40
05		6.6	24	<300		---	E		2.35
06		6.6	25	290		---	E		2.40
07		8.6	26	245		173	2.10		2.70
08		>9.6	21	230		109	2.90		----
09		>10.0	21	240		105	(3.15)		
10	---	>10.0	18	230		105	----		
11	---	>9.9	21	240		103	----	3.8	
12	---	>10.0	21	240		103	----		----
13	---	>10.0	21	240		103	----		
14	---	>9.0	19	250		103	----		----
15	---	>9.9	19	250		103	----		
16		>9.7	19	250		105	(3.10)		
17		>9.4	24	260		109	2.70		----
18		>9.4	21	260		113	2.00		----
19		(9.2)	19	250		---	E		(2.50)
20		(0.6)	22	265		---	----		(2.40)
21		(0.1)	25	<300		---	----		(2.35)
22		0.0	24	300		---	----		2.35
23		8.0	24	320		---	----		2.30

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 55

Tucuman, Argentina (26.9° S, 65.4° W) August 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		13.8	29	225					3.10
01		12.5	29	225					3.30
02		1[illegible].4	28	215					3.30
03		8.8	28	215				1.1	3.35
04		6.6	28	225		---	----	1.3	3.[illegible]
05		5.6	28	235		---	----		3.20
06		4.8	27	245		---	----		3.00
07		7.4	24	260		(145)	1.95		3.15
08		10.6	29	235		105	2.65		3.30
09		12.4	29	230		101	3.35		3.10
10	---	13.8	28	215	---	101	3.70		3.05
11	(315)	13.8	28	21[illegible]	---	101	3.80		2.90
12	35[illegible]	13.9	28	(2[illegible]0)	7.2	101	4.[illegible]		2.90
13	365	14.3	29	<205	6.7	101	4.15		2.75
14	370	14.5	29	(2[illegible])	7.[illegible]	<105	3.90		2.70
15	375	14.5	29	<215	---	<105	3.70		2.65
16	[illegible]5[illegible]	(14.7)	30	235	---	105	3.55		(2.75)
17		>15.2	30	25[illegible]		109	2.65		(2.75)
18		>14.[illegible]	30	26[illegible]		(141)	1.75		(2.[illegible]0)
19		(14.[illegible])	30	27[illegible]				2.1	(2.70)
20		(14.[illegible])	30	26[illegible]					(2.60)
21		>14.[illegible]	30	24[illegible]					(2.60)
22		>14.3	30	225					3.[illegible]
23		14.3	29	22[illegible]					3.[illegible]

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 56

Grahamstown, Union of S. Africa (33.3° S, 26.5° E) August 1958

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	foEs	(M3000)F2
00		3.35	18						2.95
01		3.40	20						2.9
02		3.50	17						3.1
03		3.35	17						3.15
04		3.10	16						2.9
05		3.00	15						3.0
06		(3.05)	15						(3.0)
07		(6.50)	15			185	(1.90)		(3.4)
08		(10.50)	7			125	(2.70)		(3.5)
09		(11.10)	10	(240)		<140	(3.30)		(3.5)
10		(11.60)	13	245		<135	----		(3.3)
11		(12.00)	13	<250		<140	----		(3.25)
12		(12.00)	8	(250)		---	----		(3.1)
13		(12.00)	12	(250)		---	----		(3.1)
14		(12.40)	8	(250)		---	----		(3.0)
15		(12.00)	8	250		---	(3.30)		(3.0)
16		(11.70)	13	(245)		---	(3.00)	3.1	(3.0)
17		(11.50)	17			150	(2.40)		(3.2)
18		(11.25)	11			---	<2.00		(3.25)
19		(8.40)	11					1.9	(3.35)
20		(6.30)	13					(1.8)	(3.4)
21		(5.50)	19						(3.4)
22		(3.60)	19						(3.1)
23		3.25	16						3.0

Time: 30.0°E.
Sweep: 1.5 Mc to 15.0 Mc.

Table 57

La Quiaca, Argentina (22.1° S, 65.6° W) July 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.1	23	200					(3.15)
01		8.8	20	200					(2.90)
02		8.8	22	210					(2.90)
03		>8.6	22	200					(3.10)
04		6.0	21	<200					3.05
05		(4.8)	19	210					2.90
06		4.0	19	215					3.00
07		>5.9	24	250		--	1.60		2.95
08	---	>9.2	22	210		99	2.70	3.0	----
09	---	>11.6	21	205		99	(3.15)		----
10	---	>12.0	21	200		99	(3.50)		----
11	---	>12.0	21	195		98	----		
12	---	>11.7	20	195	---	97	----		----
13	(370)	>11.7	21	190	---	97	----		
14	---	(11.6)	23	190	5.7	97	(3.60)		----
15	---	>11.4	23	(195)	---	97	----		----
16	---	>11.3	23	200		99	(3.20)		
17	---	>11.2	26	225		99	2.55	3.1	
18		>9.1	23	255		--	----	3.0	
19		>8.8	19	260					
20		>9.0	17	230				2.6	
21		>9.0	19	215				2.2	
22		>9.1	24	200					
23		>9.1	22	200					----

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 58

Sao Paulo, Brazil (23.5° S, 46.5° W) July 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		8.7	19	240					2.9
01		7.5	19	240					2.95
02		7.0	18	250					2.95
03		6.3	19	240					3.05
04		4.9	21	250					2.85
05		4.5	19	260					2.9
06		3.7	17	280					2.85
07		6.8	20	260					3.05
08		9.9	21	255			2.75		2.15
09		11.3	23	250			3.40		3.1
10		11.4	25	240			3.60		3.05
11		11.4	23	240			>3.85		2.9
12	---	11.4	24	230	---		>3.80		2.75
13	395	12.0	21	240	(6.8)		----		2.6
14	400	12.8	23	240	6.0		3.60		2.6
15	(390)	13.2	20	250	---		----		2.65
16		13.9	22	260			----		2.7
17		(13.8)	20	260					(2.8)
18		(13.0)	19	250					(2.9)
19		>11.4	22	240					2.95
20		10.8	19	250					2.85
21		10.2	20	255					2.7
22		10.4	19	250					2.9
23		10.1	17	235					2.95

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 59

Tucuman, Argentina (26.9° S, 65.4° W) July 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	29	220				2.4	3.15
01		9.6	30	230					3.10
02		>9.0	30	240					3.10
03		8.5	30	235				2.6	3.40
04		6.8	30	210				1.1	3.50
05		4.6	29	225					3.30
06		4.4	29	<255					3.05
07		6.0	30	270		153	1.55		3.10
08		9.7	29	230		109	2.60		3.45
09		11.3	30	230		101	3.15		3.40
10	---	12.5	30	220		101	3.50		3.30
11	260	12.5	30	210	---	101	3.65		3.10
12	(325)	13.2	30	200	---	101	3.80		2.95
13	350	13.6	30	200	6.4	101	3.70		2.90
14	345	14.3	30	210	---	101	3.65		2.85
15	350	14.8	30	210	---	<103	3.40		(2.80)
16	(315)	14.5	30	240	---	105	3.10		(2.85)
17	---	(14.5)	30	250		119	2.50		(2.80)
18		13.6	30	245		---	----	2.6	(2.95)
19		(12.6)	29	245				2.5	(2.90)
20		(11.8)	29	<240				2.5	(2.85)
21		12.6	30	230					2.90
22		12.7	30	220					3.05
23		12.2	30	220					3.20

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 60

Trelew, Argentina (43.2° S, 65.3° W) July 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.5	19	340					(2.45)
01		>5.1	21	330					2.50
02		5.0	21	310					2.50
03		>5.0	25	315					(2.55)
04		5.3	23	300					2.65
05		4.9	23	270					2.60
06		>4.6	22	320					2.50
07		>4.9	22	250		---	(1.80)		2.80
08		>7.6	21	220		155	2.60		----
09		>9.2	10	(210)		---	----		----
10		>9.4	4	---		---	----		
11		>9.9	2	---		---	----		
12		>10.2	1	---		---	----		
13		>10.0	1	---		---	----		
14		----	0	---		---	----		
15		(10.3)	1	---		---	----		----
16		>9.6	9	(235)		---	----		
17		>8.5	15	220		---	----		
18		>6.8	14	210					
19		>6.6	14	(225)					----
20		>6.8	13	240					----
21		(5.9)	17	235					(2.90)
22		>5.4	17	(270)					(2.60)
23		(5.4)	15	(320)					(2.55)

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 61

Ushuaia, Argentina (54.8° S, 68.3° W) July 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>3.2	11	(375)					(2.40)
01		3.2	10	(360)					(2.40)
02		3.2	10	<360					(2.40)
03		3.2	14	<355					2.40
04		3.1	15	<350					2.40
05		3.2	14	(320)					2.40
06		3.1	12	290					2.50
07		3.1	15	(290)					2.55
08		>4.0	14	245		---	E		2.65
09		>6.2	14	205		---	---	2.2	(2.75)
10		>7.3	10	210		---	---		----
11		(8.2)	9	(210)		---	---		(3.10)
12		>9.6	6	---		---	---		
13		>8.0	5	---		---	---		----
14		>8.0	6	---		---	---		----
15		>8.0	5	(225)		---	---		----
16		>7.4	9	(210)		---	---		----
17		>6.0	8	(200)		---	---		
18		(5.3)	6	(220)					----
19		>4.2	6	(210)					----
20		(3.5)	9	(250)					(2.70)
21		>3.3	10	<290					(2.60)
22		(3.1)	7	(335)					(2.50)
23		(3.1)	9	---					(2.30)

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 62

Sao Paulo, Brazil (23.5° S, 46.5° W) June 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		9.3	23	240				<2.1	2.80
01		8.8	20	240				<2.2	3.00
02		8.3	24	240				<2.1	3.00
03		6.6	23	240				<2.1	2.95
04		5.5	25	260				<2.1	2.75
05		4.7	23	290				<2.1	2.80
06		4.2	22	290				<2.1	2.80
07		7.2	21	275			<2.20		2.95
08		10.2	26	250			2.90		3.00
09		12.2	27	250			3.25		3.00
10		13.4	28	240			3.55		2.95
11	---	13.0	28	230	---		3.80		2.85
12	(360)	13.1	27	235	---		3.75		2.70
13	(380)	13.4	24	230	6.8		3.80		2.70
14	(390)	13.4	25	240	6.4		3.65		2.65
15	(380)	13.8	23	250	---		3.40		2.65
16	---	14.0	23	260	---		2.90		2.70
17		>14.0	27	260			----		2.85
18		>13.5	24	240				2.7	2.90
19		11.2	25	240				2.8	2.85
20		11.4	23	260				<2.2	2.80
21		11.2	19	255				<2.2	2.95
22		11.0	23	240				<2.2	2.85
23		9.8	22	240				<2.1	2.85

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 63

Hobart, Tasmania (42.9° S, 147.7° E) May 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.3	23	270					2.65
01		5.8	22	280					2.50
02		4.8	19	280					2.60
03		4.9	16	280				>1.8	2.70
04		(4.6)	18	270				1.8	2.75
05		(4.2)	18	250					2.85
06		(3.9)	17	240					2.70
07		5.8	19	260					2.90
08		>8.5	30	240		---	2.35		(3.10)
09		>10.6	30	230		120	2.85		3.10
10		>12.0	29	230		110	3.20		(2.90)
11		>12.5	27	230		120	3.40		(3.00)
12		>13.0	27	230		110	3.40		----
13		>13.0	26	230		110	3.55		----
14		>13.0	26	230		120	3.25		
15		>12.9	27	230		110	3.00		
16		>12.0	28	230		120	2.35		----
17		>11.0	30	230					----
18		>10.0	30	240					(2.80)
19		(8.8)	30	240					2.80
20		7.7	29	240					2.80
21		7.2	27	250					2.75
22		7.0	24	250					2.65
23		>6.3	20	260					2.65

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 64

Svalbard, Norway (78.2° N, 15.7° E) February 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.2)	8	275		---	----	1.7	(2.30)
01		4.2	12	285		---	E	1.4	(2.60)
02		4.2	15	325		---	----	2.9	2.40
03		3.8	16	360		---	1.95	3.1	2.25
04		(3.9)	19	310		120	----	2.9	(2.30)
05		4.1	19	340		---	----	3.0	2.35
06		3.5	15	360		---	----	3.2	(2.30)
07		(4.2)	15	345		---	----	3.0	(2.60)
08		4.4	14	340		125	1.85	2.9	2.45
09		(6.8)	12	300		120	----	3.0	(2.60)
10	---	6.5	19	265		125	2.00	3.1	2.80
11	---	(6.3)	13	275		125	2.15	3.0	2.75
12	(270)	(6.6)	12	290	---	125	1.80	3.0	(2.85)
13	265	(6.5)	9	270	---	125	2.10	2.8	(2.80)
14	(275)	5.8	10	270		125	1.80	3.0	(2.55)
15	---	(5.6)	13	275		125	2.15	3.2	2.60
16		(6.4)	15	260		125	----	4.1	(2.80)
17		(6.5)	16	260		---	----	4.8	(2.80)
18		(6.6)	13	250		---	----	5.7	(2.75)
19		(6.9)	10	260		---	----	3.6	(2.65)
20		(7.0)	9	250		---	----	3.1	(2.65)
21		(7.1)	5	250		---	----	2.2	----
22		(4.7)	7	250		---	E	2.3	----
23		(5.4)	10	270		---	----	1.9	(2.70)

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 65

Juliusruh/Rügen, Germany (54.6° N, 13.4° E) February 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.4	20	<325					2.35
01		4.4	21	<330					2.35
02		4.2	16	(315)					2.30
03		4.2	13	(315)					2.35
04		3.9	13	<320				1.0	2.40
05		3.7	15	310					2.45
06		3.6	18	<300			E		2.45
07		5.2	22	285			1.40		2.70
08		7.8	24	245			2.10		2.90
09		10.1	25	240			2.50		2.90
10		11.3	25	240			2.90		2.85
11		12.4	22	235			3.05		2.80
12		13.0	25	240			3.20		2.80
13		13.3	25	235			3.10		2.80
14		13.4	24	230			3.00		2.75
15		13.3	27	240			2.80		2.80
16		12.8	27	230			2.50		2.80
17		11.9	25	230			1.95		2.80
18		10.1	18	230			----		2.80
19		7.8	22	230					2.80
20		6.6	24	(250)					2.70
21		5.6	23	<270					2.55
22		4.8	23	<300					2.50
23		4.5	19	<330					2.35

Time: 15.0°E.
Sweep: 0.5 Mc to 20.0 Mc in 20 seconds.

Table 66

Eureka, Canada (80.0° N, 85.9° W) January 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.1	31	270					
01		6.0	31	270					
02		6.0	29	270					
03		6.0	29	260					
04		5.6	30	270					
05		5.1	30	260					
06		4.7	30	270					
07		5.3	30	260					
08		5.4	26	260					
09		6.6	30	250					
10		6.2	30	250					
11		7.0	26	240					
12		7.2	30	240					
13		7.6	26	230					
14		7.1	27	240					
15		7.9	29	250					
16		7.1	29	250					
17		7.1	29	260					
18		6.7	30	260					
19		7.1	29	260					
20		6.4	26	270					
21		7.2	30	250					
22		6.9	31	260					
23		7.0	29	260					

Time: 75.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 67

Svalbard, Norway (70.2° N, 15.7° E) January 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.0	14	265				1.4	(2.40)
01		(5.0)	19	275		---	----	2.6	(2.50)
02		(4.8)	19	280		---	1.45	1.8	(2.40)
03		(4.5)	16	305		---	----	2.0	(2.40)
04		(4.3)	22	310		---	1.40	2.2	(2.30)
05		(4.4)	14	320		---	1.00	2.2	----
06		(4.2)	12	260		---	1.40	3.0	(2.35)
07		(4.4)	16	310		130	1.80	2.9	(2.40)
08		(5.3)	11	300		---	1.60	3.2	----
09		(6.2)	12	300		---	1.00	3.2	----
10		(6.6)	12	280		135	1.50	3.3	----
11		(5.4)	15	205		125	1.60	3.2	(2.70)
12		(5.1)	15	260		120	1.70	3.3	----
13		(5.2)	13	260		135	1.40	3.2	(2.65)
14		5.2	12	200		140	1.90	3.2	(2.70)
15		(5.4)	13	260		140	2.00	>3.2	----
16		(5.6)	13	260		145	1.35	3.3	----
17		(5.0)	10	265		---	----	3.2	----
18		(5.0)	13	280		---	----	3.2	----
19		(6.3)	16	270		---	E	3.4	----
20		6.6	11	250		---	----	1.0	(2.40)
21		(6.4)	7	250		---	----	1.4	----
22		(6.8)	14	255		---	E	2.1	(2.40)
23		(6.4)	13	260		---	----		----

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 68

Freiburg, Germany (40.1° N, 7.6° E) January 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.5	30	305					2.40
01		5.4	29	305					2.40
02		>5.0	30	305					2.45
03		4.6	31	295					2.50
04		4.3	31	275					2.60
05		3.9	29	265					2.50
06		4.0	31	270					2.60
07		6.9	31	235		---	1.30		2.70
08		11.2	31	230		121	2.30	2.6	2.95
09		(13.9)	29	230		115	2.85	3.0	(2.90)
10		(14.0)	30	225		113	3.15	3.3	(2.85)
11	---	14.2	30	230		113	3.20	3.4	(2.75)
12	---	(14.0)	30	225		113	3.30	3.4	(2.70)
13	---	(13.8)	31	230		115	3.20	3.3	(2.70)
14	---	(13.2)	31	230	---	117	2.95	2.9	2.65
15		12.7	31	230		117	2.50	2.6	2.70
16		12.3	31	235		---	1.70	1.9	2.75
17		11.2	31	220					2.75
18		8.9	31	225					2.80
19		7.2	31	240				1.6	2.65
20		6.4	31	250					2.60
21		5.8	29	275					2.55
22		5.6	30	275					2.45
23		5.4	30	290					2.40

Time: 0.0°.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 69

Paramaribo, Surinam (5.0° N, 55.2° W) January 1950

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		>16.5	31	300				3.1	(2.45)
01		>17.0	31	270				3.0	(2.50)
02		>17.0	31	250				2.9	2.60
03		16.5	31	240				2.0	2.70
04		>13.5	30	220				3.0	2.75
05		11.2	31	230				2.7	2.90
06		8.9	31	230				3.0	2.90
07		7.2	29	250				3.2	2.80
08		6.2	31	260				3.1	2.80
09		6.4	30	260				3.1	2.75
10		9.6	31	270		---	1.8	3.2	2.90
11		13.2	31	250		100	2.9	4.2	3.00
12		14.4	31	230		100	3.5	4.7	2.90
13	(350)	13.6	31	220	---	100	3.9		2.65
14	405	13.7	31	215	(0.0)	100	4.2	4.3	2.50
15	435	13.6	31	220	7.5	100	4.4	4.7	2.40
16	450	14.0	31	230	7.2	100	4.4	4.4	2.30
17	460	14.2	31	230	(7.2)	100	4.3	4.3	2.30
18	460	14.0	31	230	(7.0)	100	4.1	4.6	2.30
19	460	13.9	31	250	(7.0)	100	3.8	4.4	2.30
20	450	14.0	31	250	(6.5)	100	3.4	4.4	2.30
21	---	14.0	31	270	---	100	2.7	4.7	2.40
22		14.8	30	300		---	E	4.4	2.50
23		>15.0	30	310				4.2	2.40

Time: 0.0°.
Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 70

Lulea, Sweden (65.6° N, 22.1° E) November 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.2	18	<350				3.4	(2.2)
01		(6.4)	21	345		---	---	2.7	(2.3)
02		(6.0)	23	335		---	---	3.1	(2.3)
03		(6.0)	23	330		---	---	2.5	(2.3)
04		6.5	21	300		---	---	<1.6	2.35
05		(5.8)	22	280		---	---		2.35
06		5.0	25	270		---	---		2.5
07		5.8	25	260		---	---		2.6
08		0.0	28	260		<100	1.0		2.6
09		10.2	26	250		<145	2.2		2.8
10		12.6	28	245		135	2.4		2.7
11		>13.0	28	240		140	2.5		2.7
12		>14.0	26	240		130	2.4		2.6
13		(14.2)	28	240		145	2.3		2.65
14		>14.4	28	235		155	2.2		2.7
15		13.3	23	235		---	1.8		2.8
16		10.8	23	230		---	---		2.0
17		8.4	24	240		---	---	<1.7	2.85
18		6.0	22	260		---	---	<2.0	2.7
19		5.9	22	260		---	---	3.1	2.5
20		6.0	20	300		---	---	3.2	2.6
21	---	(5.8)	17	300	---	---	---	3.3	(2.3)
22	---	(5.6)	19	300	---	---	---	4.0	2.3
23		>5.9	15	350		---	---	3.6	(2.3)

Time: 15.0°E.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 71

Lulea, Sweden (65.6° N, 22.1° E) January 1953

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	foEs	(M3000)F2
00	290	(2.2)	7					2.6	
01									
02	290	(2.3)	6					2.3	
03									
04	295	(2.3)	9						
05									
06	---	2.0	10						
07									
08	250	2.7	22	---	---	---	---		
09									
10	225	5.0	27	---	1.7	---	---		
11									
12	220	5.7	22	---	1.8	---	---		
13									
14	215	4.6	19	---	---	---	---		
15									
16	225	2.9	18						
17									
18	---	(2.0)	9						
19									
20	---	(2.6)	2					3.5	
21									
22	(290)	(2.2)	3						
23									

Time: 15.0°E.
Sweep: 1.5 Mc to 1[illegible] Mc in 6 minutes, automatic operation.

Table 72

Bukama, Belgian Congo (9.2° S, 25.8° E) January 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>10.0	28	250				(1.6)	(2.76)
01		>10.0	26	270					(2.82)
02		>10.0	29	260				(1.6)	2.98
03		10.0	25	240				(1.6)	2.84
04		8.1	27	235				(1.6)	2.96
05		6.9	23	230				(1.6)	3.19
06		6.5	24	250		---	E	(1.8)	3.02
07	---	8.8	28	245	---	121	2.75		3.02
08	---	10.0	28	240	---	111	3.50		2.93
09	---	>10.0	30	230	---	111	3.80		2.64
10	---	>10.0	27	220	---	109	4.05		(2.44)
11	---	>10.0	28	210	---	109	4.20		----
12	470	>10.0	30	210	---	109	4.30		----
13	435	>10.0	30	210	---	---	4.25		----
14	450	>10.0	30	220	---	111	4.10		
15	490	>10.0	30	225	---	111	3.90		----
16	465	>10.0	31	240	---	111	3.60		----
17	---	>10.0	31	255	---	115	3.05	3.1	----
18		10.0	25	290		---	2.10	>2.4	
19		>10.0	31	360				(2.4)	----
20		>10.0	30	370				(2.0)	----
21		>10.0	29	310				(1.8)	----
22		>10.0	30	260				(2.0)	(2.87)
23		>10.0	28	220				(1.9)	(2.96)

Time: Local.
Sweep: 1.25 Mc to 25.0 Mc in 10 minutes.

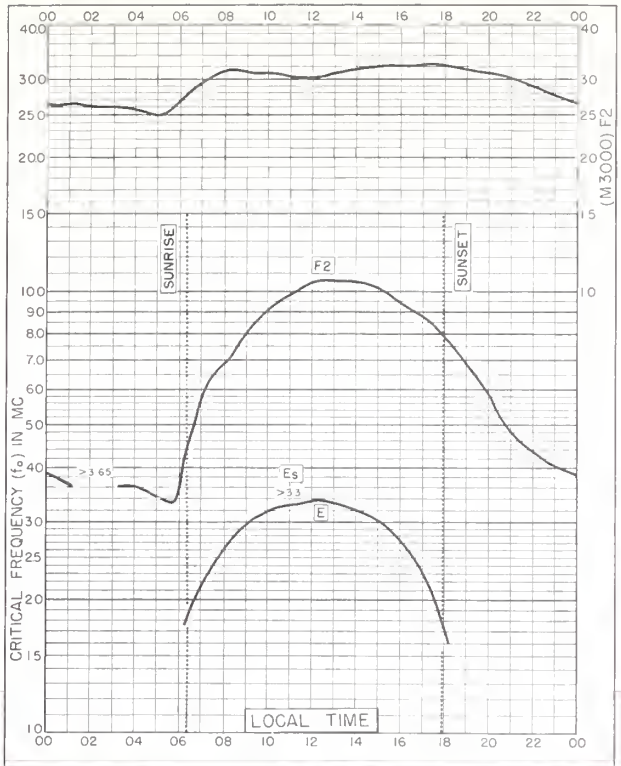


Fig. 1. ADAK, ALASKA
51.9°N, 176.6°W MARCH 1960

NBS 503

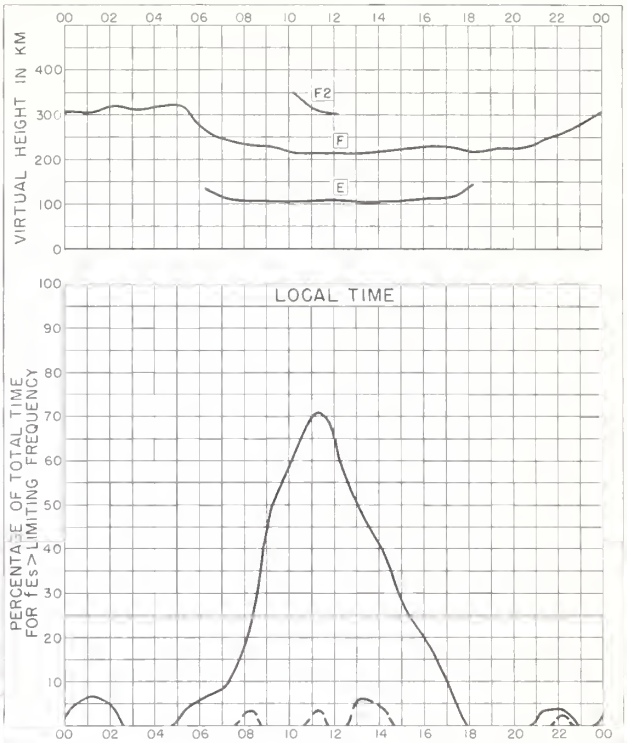


Fig. 2. ADAK, ALASKA MARCH 1960

NBS 490

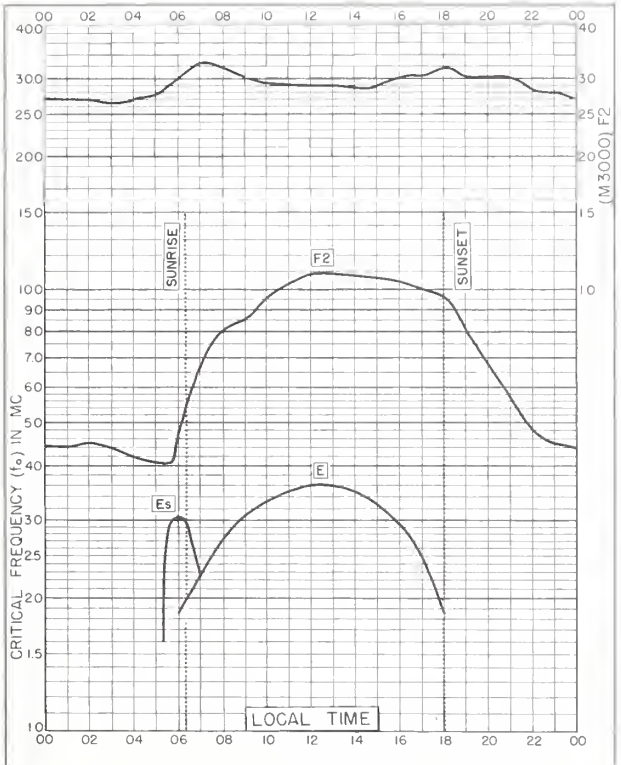


Fig. 3. BOULDER, COLORADO
40.0°N, 105.3° W MARCH 1960

NBS 503

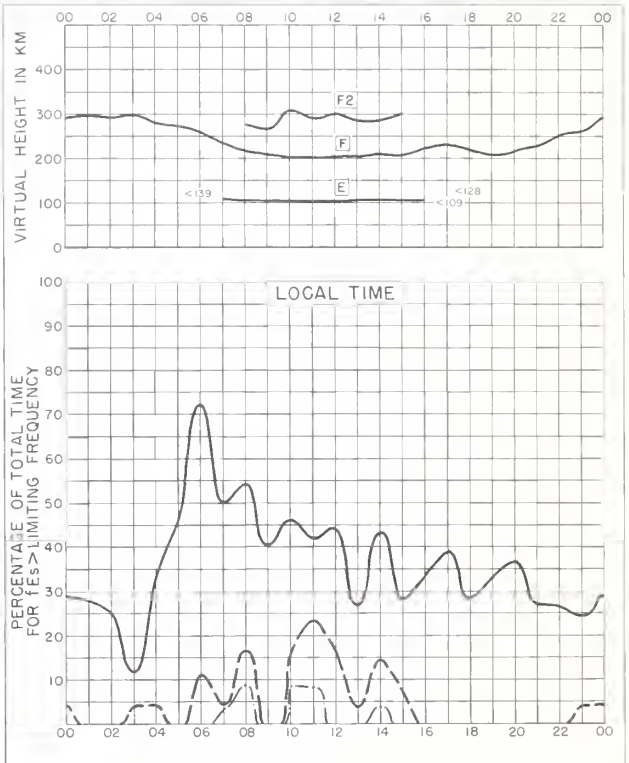


Fig 4. BOULDER, COLORADO MARCH 1960

NBS 490

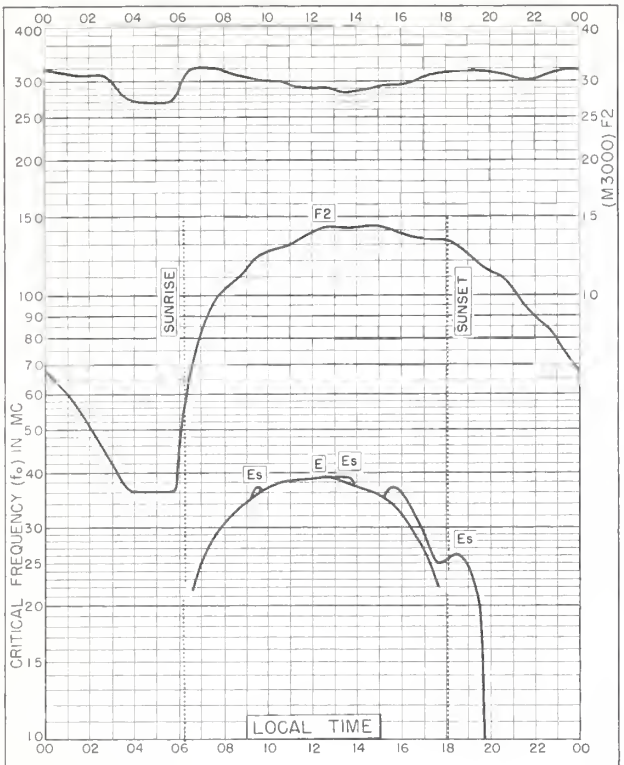


Fig 5. MAUI, HAWAII
20.8° N, 156.5° W MARCH 1960

NBS 503

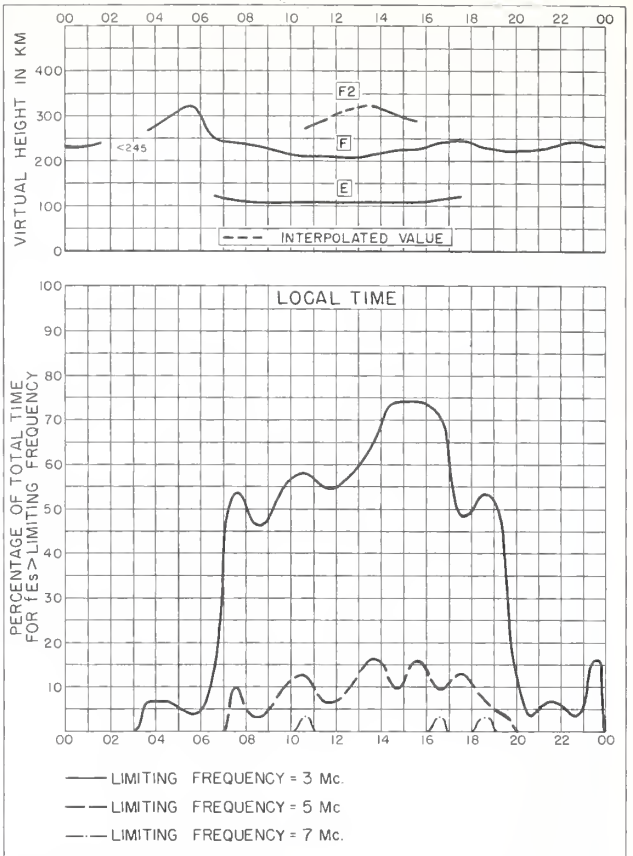


Fig 6. MAUI, HAWAII MARCH 1960

NBS 490

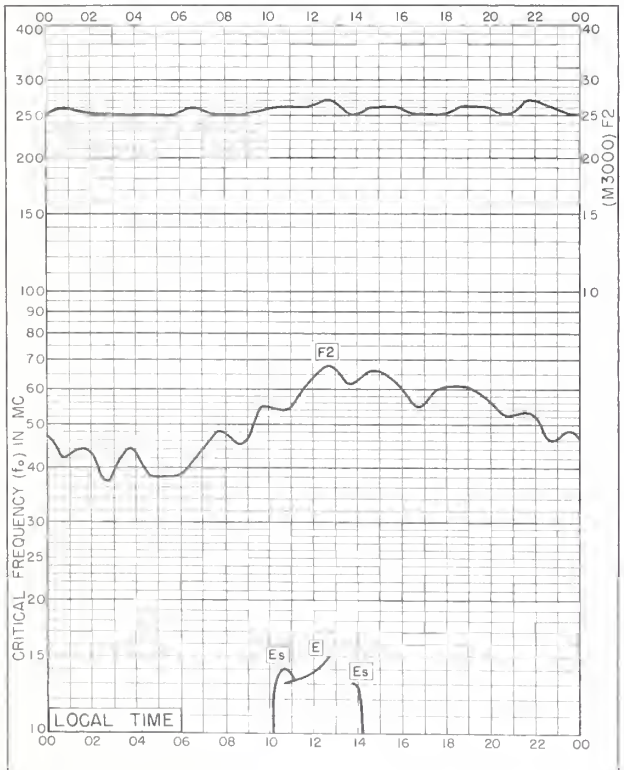


Fig. 7. RESOLUTE BAY, CANADA
74.7° N, 94.9° W JANUARY 1960

NBS 503

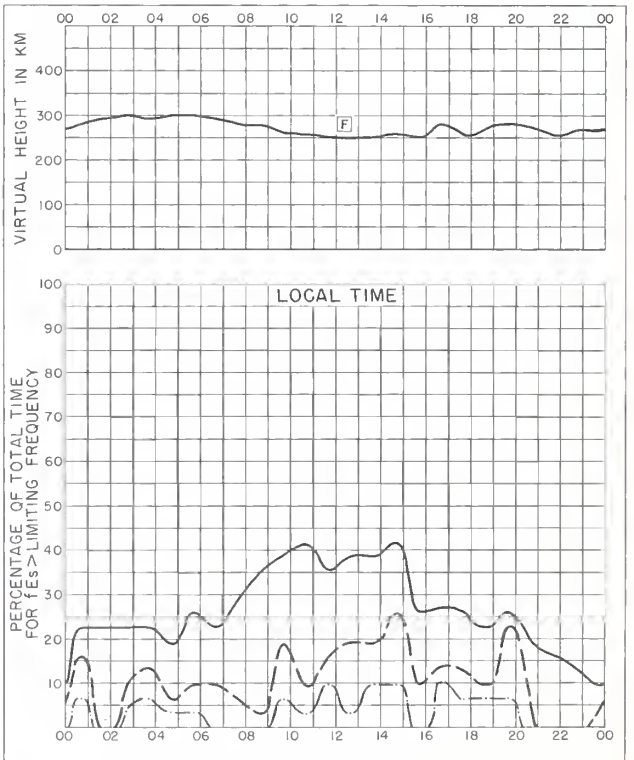


Fig. 8. RESOLUTE BAY, CANADA JANUARY 1960

NBS 490

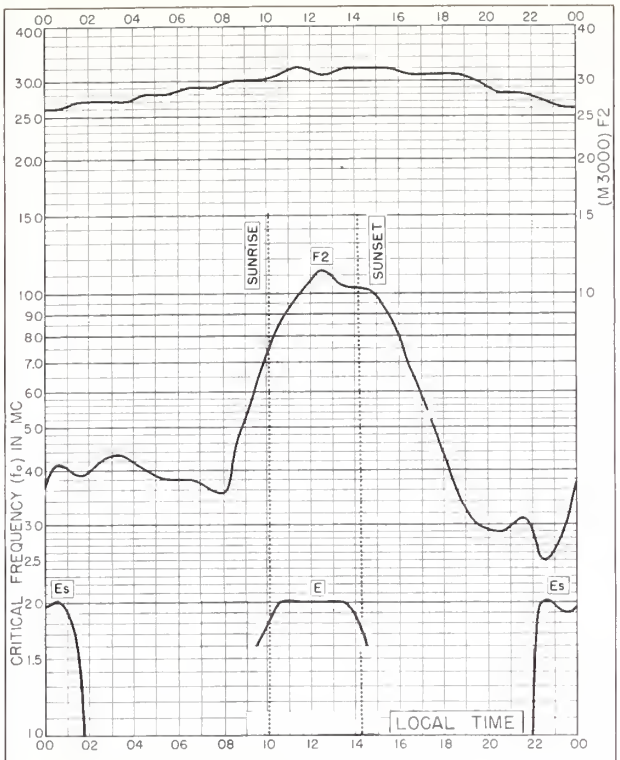


Fig. 9. LULEA, SWEDEN
65.6° N, 22.1° E JANUARY 1960

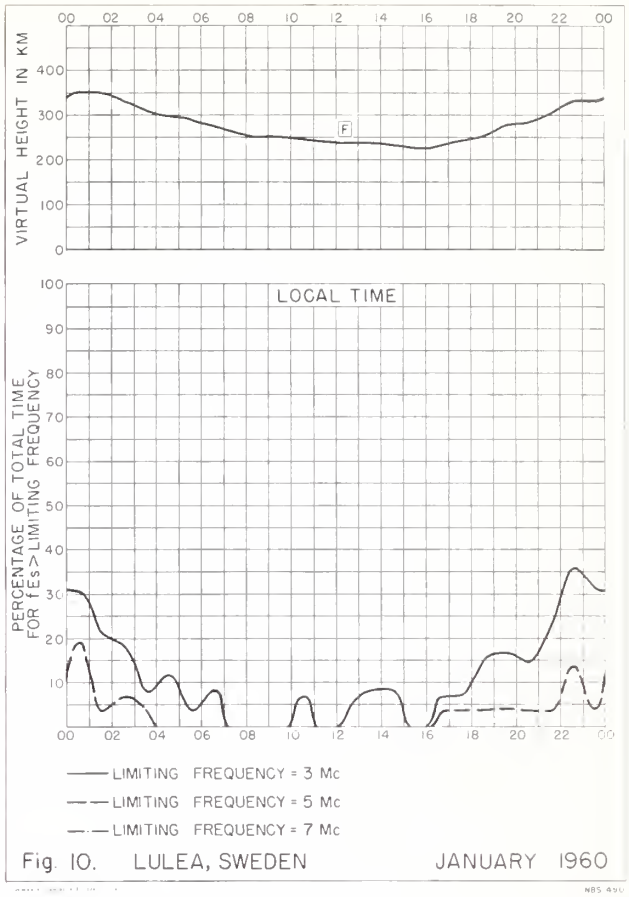


Fig. 10. LULEA, SWEDEN JANUARY 1960

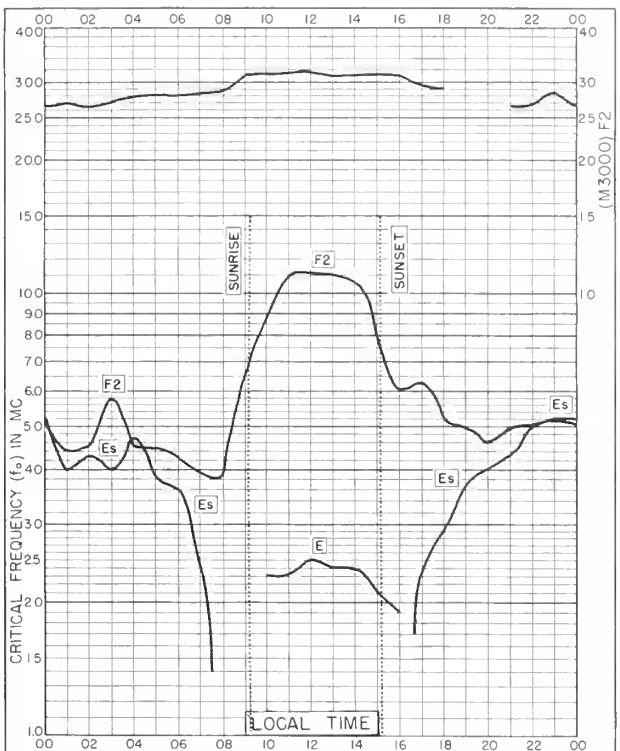


Fig. 11. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W JANUARY 1960

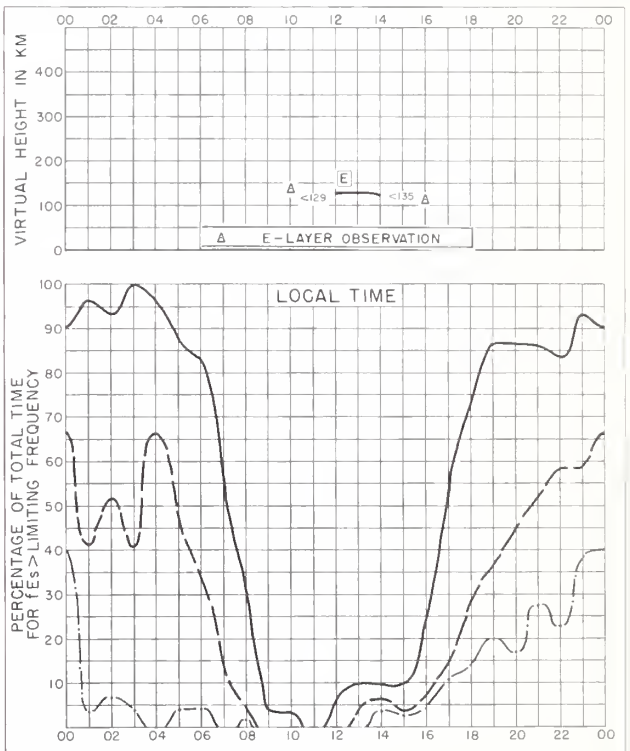


Fig. 12. NARSARSSUAK, GREENLAND JANUARY 1960

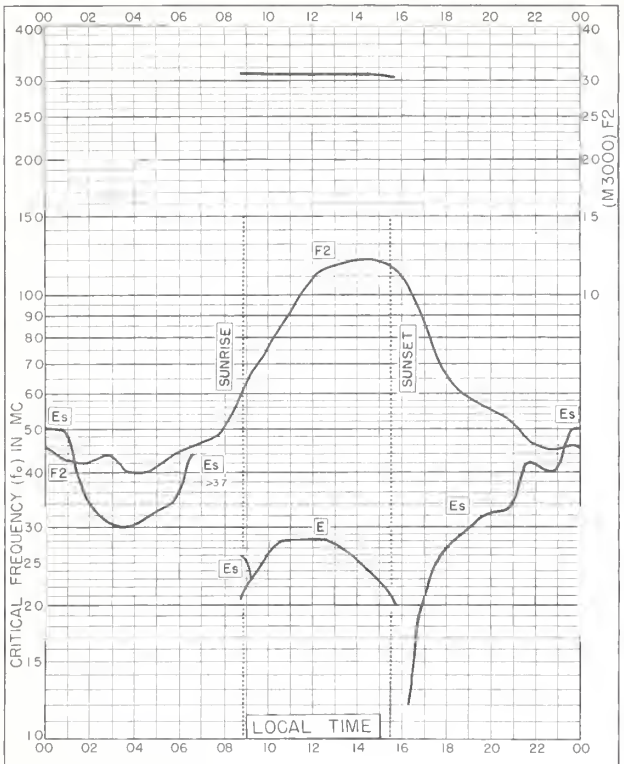


Fig. 13. CHURCHILL, CANADA
58.8°N, 94.2°W JANUARY 1960

NBS 503

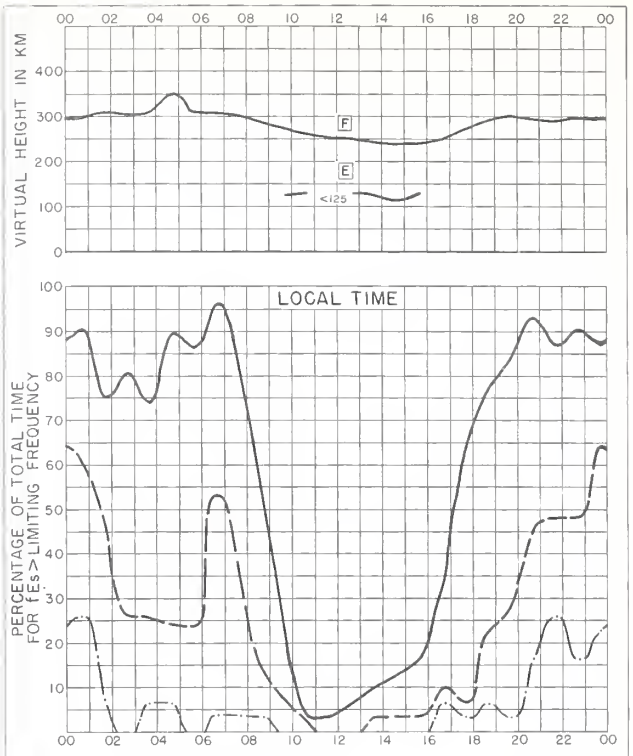


Fig. 14. CHURCHILL, CANADA JANUARY 1960

NBS 490

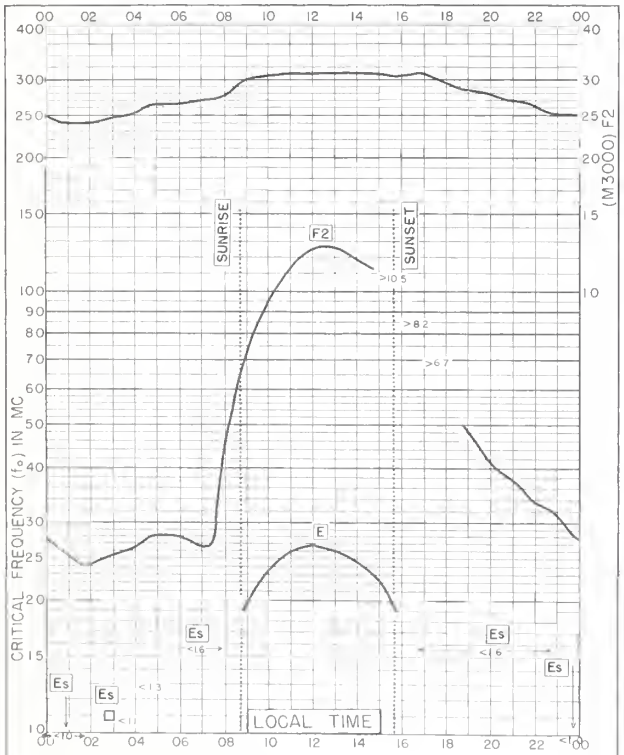


Fig. 15. INVERNESS, SCOTLAND
57.4°N, 4.2°W JANUARY 1960

NBS 503

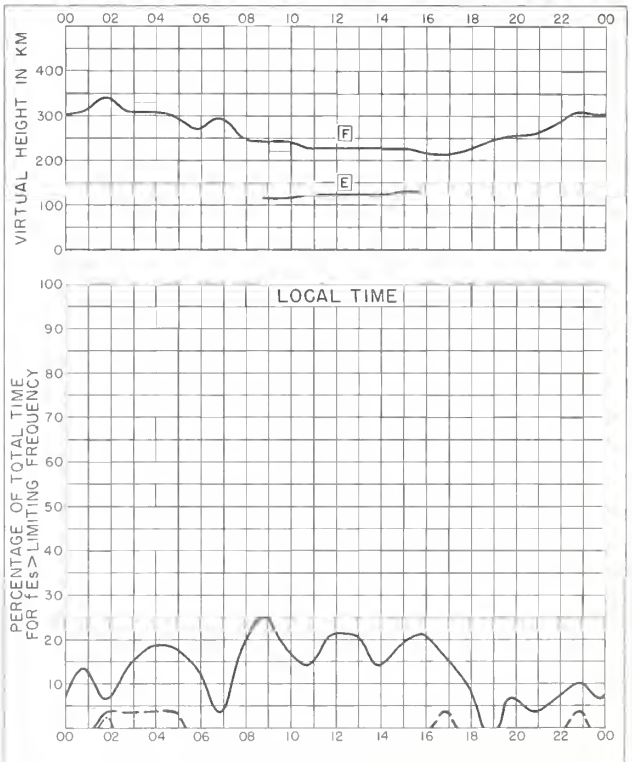


Fig. 16. INVERNESS, SCOTLAND JANUARY 1960

NBS 490

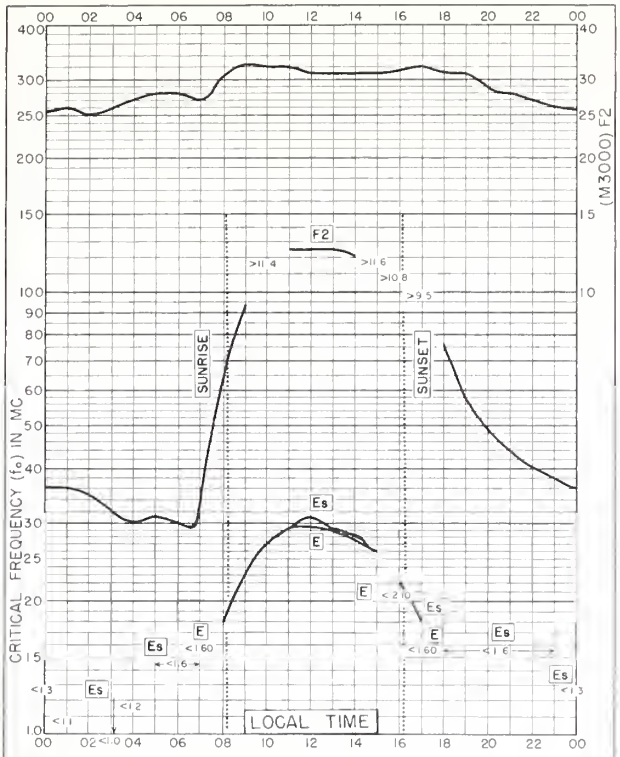


Fig. 17. SLOUGH, ENGLAND
51.5° N, 0.6° W JANUARY 1960

NBS 503

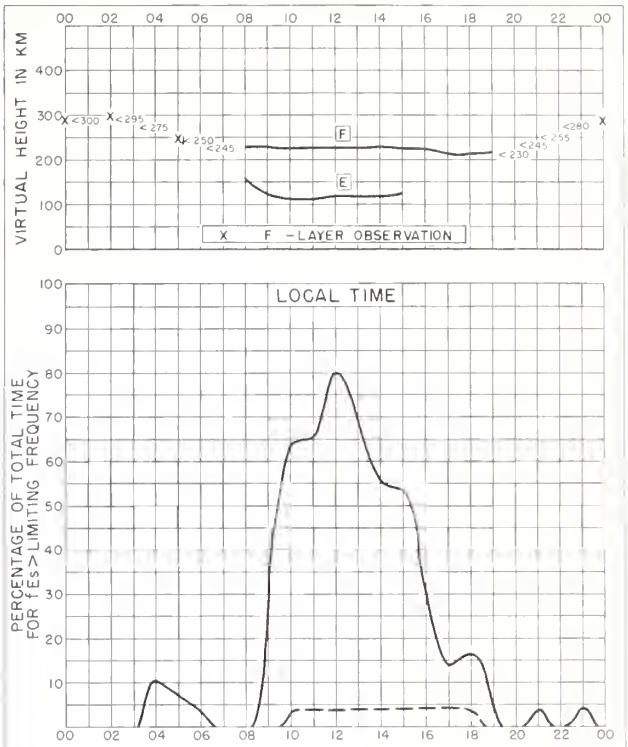


Fig. 18. SLOUGH, ENGLAND JANUARY 1960

NBS 490

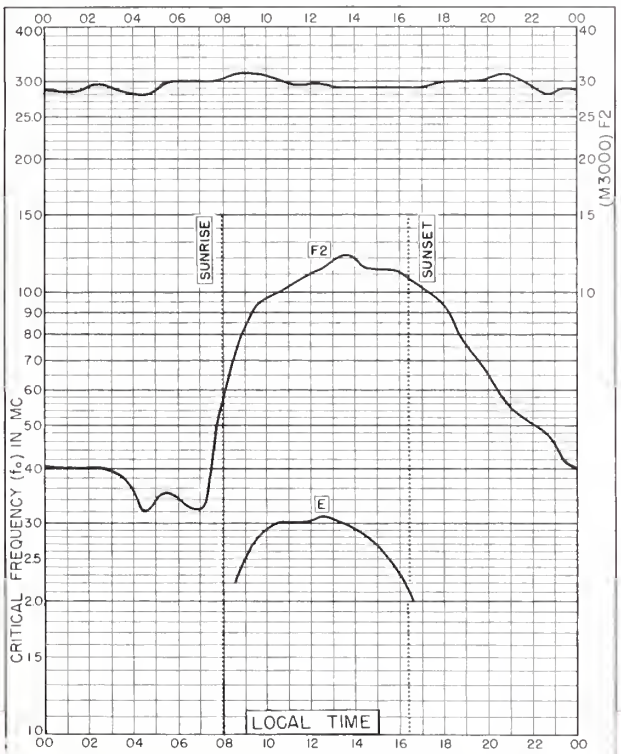


Fig. 19. WINNIPEG, CANADA
49.9° N, 97.4° W JANUARY 1960

NBS 503

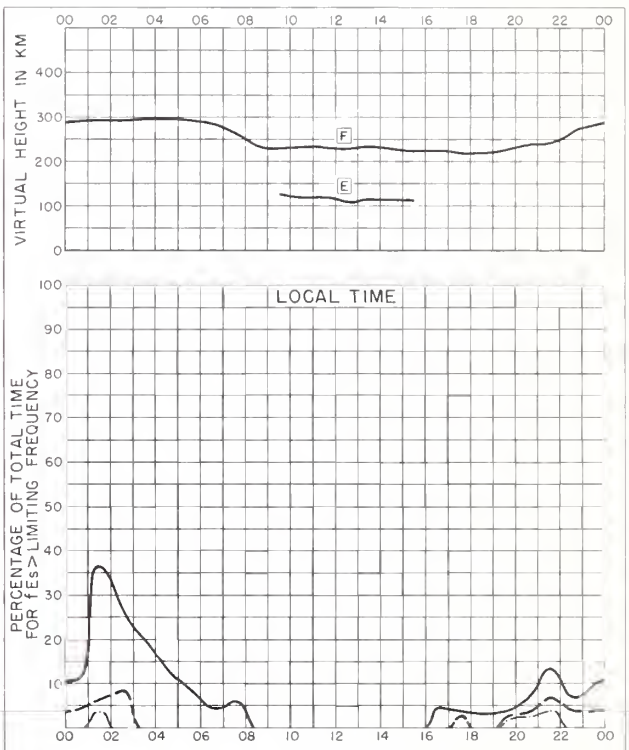


Fig. 20. WINNIPEG, CANADA JANUARY 1960

NBS 490

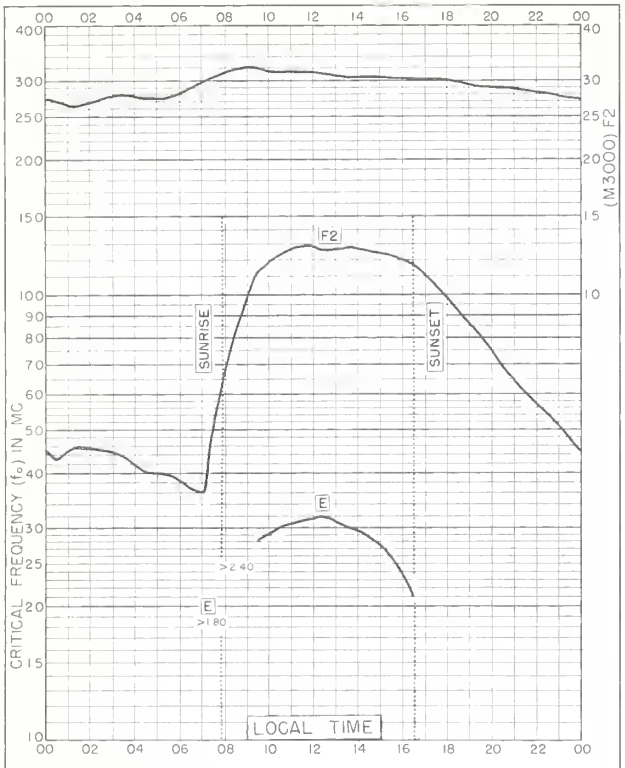
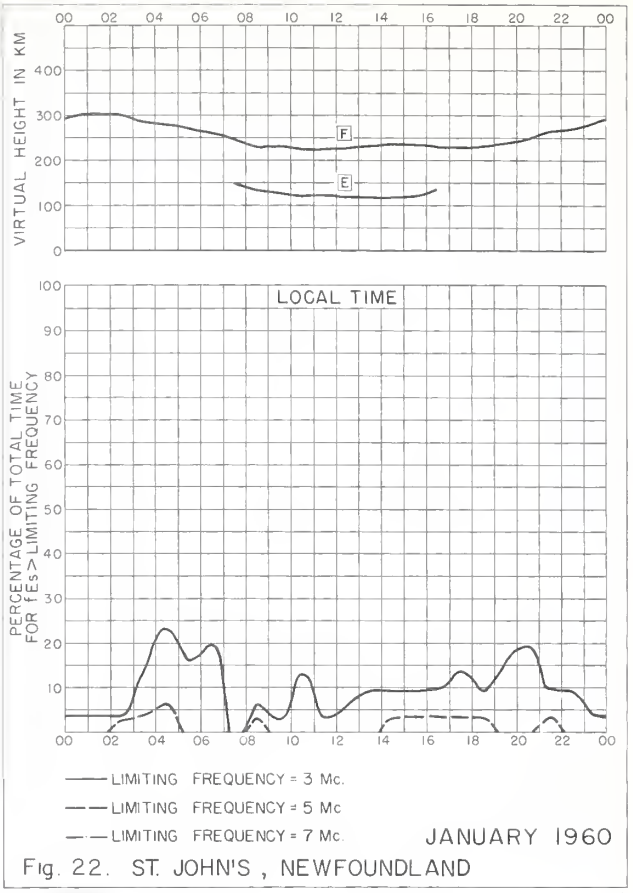


Fig. 21. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W JANUARY 1960

NBS 503



JANUARY 1960

Fig. 22. ST. JOHN'S, NEWFOUNDLAND

NBS 490

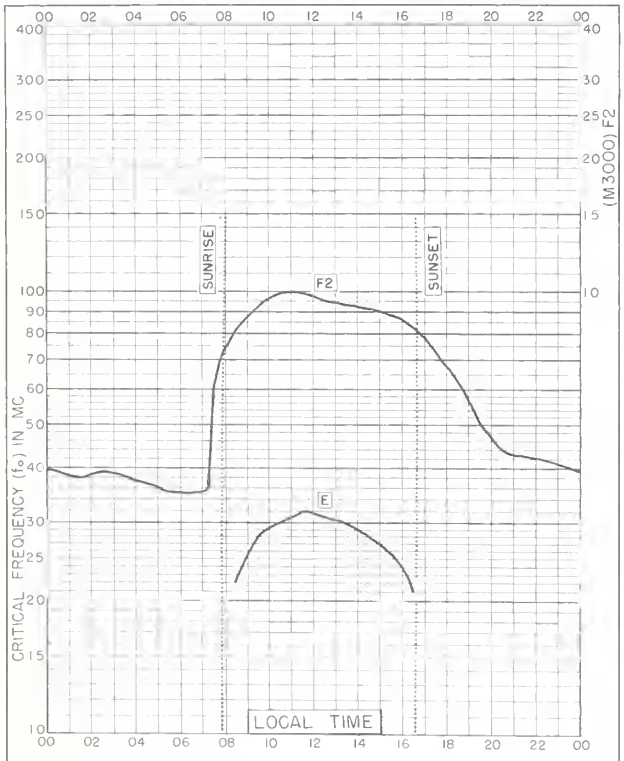
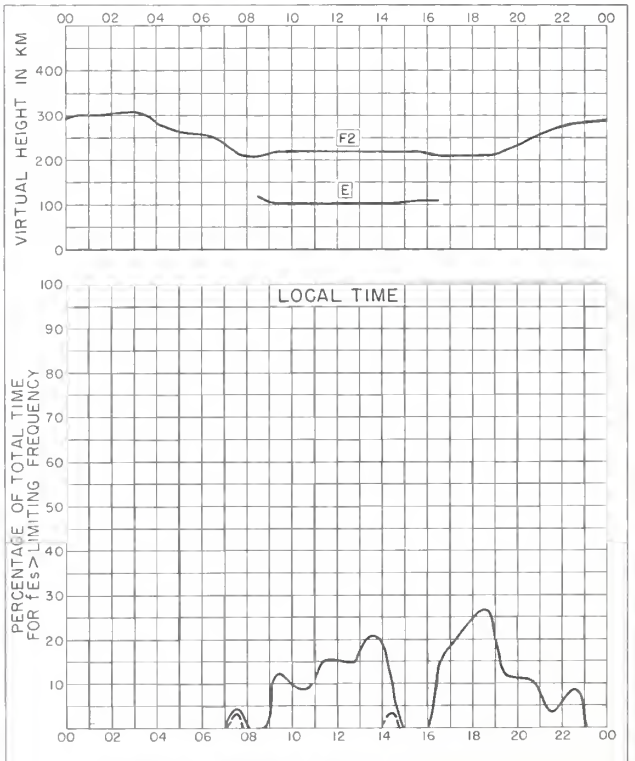


Fig. 23. SOTTENS, SWITZERLAND
46.6°N, 6.7°E JANUARY 1960

NBS 503



JANUARY 1960

Fig 24. SOTTENS, SWITZERLAND

NBS 490

Fig. 25. OTTAWA, CANADA
45.4°N, 75.9°W JANUARY 1960

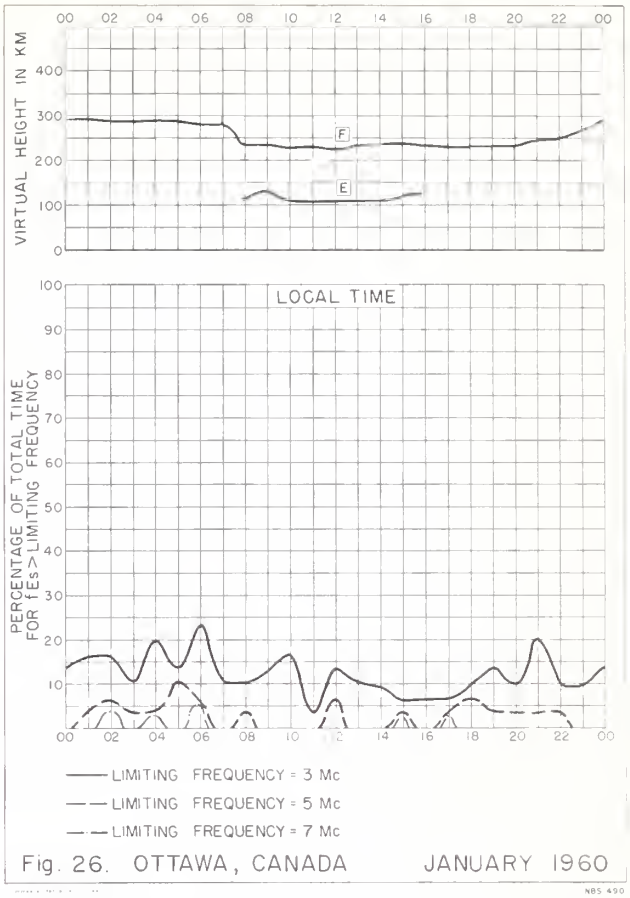


Fig. 26. OTTAWA, CANADA JANUARY 1960

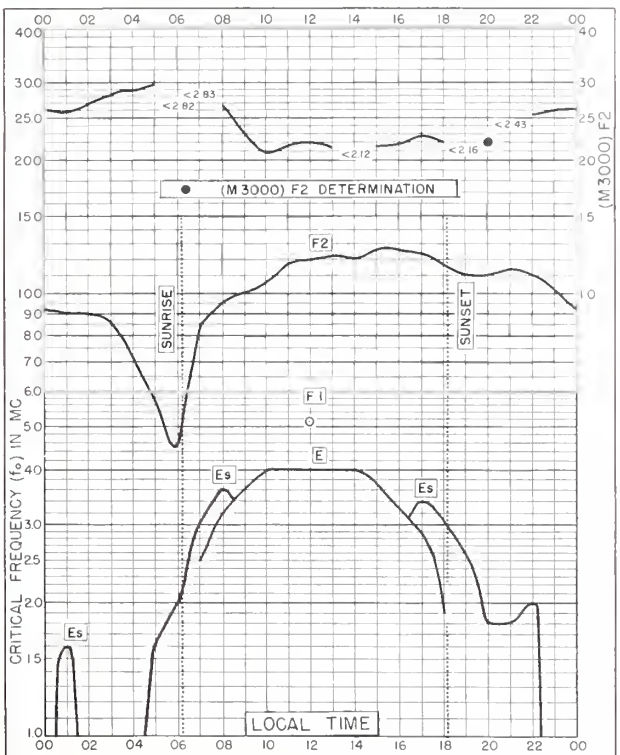


Fig. 27. BUNIA, BELGIAN CONGO
1.5°N, 30.2°E JANUARY 1960

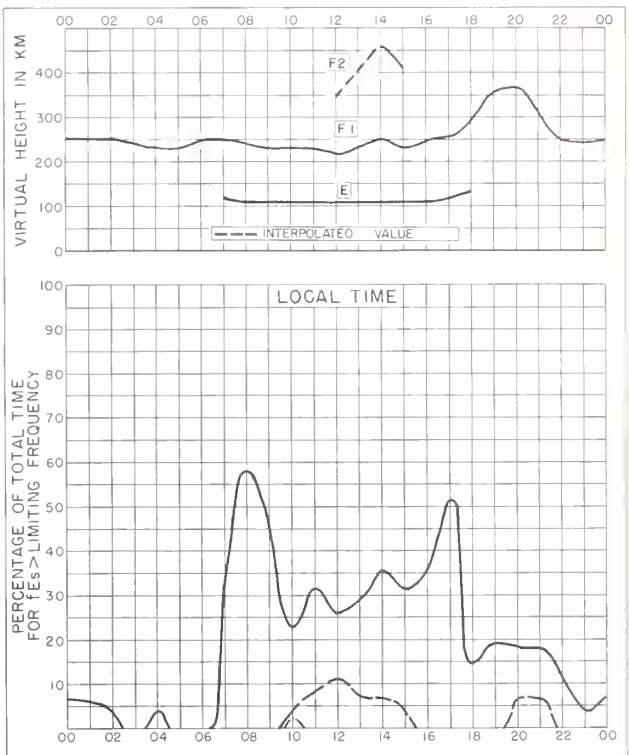


Fig. 28. BUNIA, BELGIAN CONGO JANUARY 1960

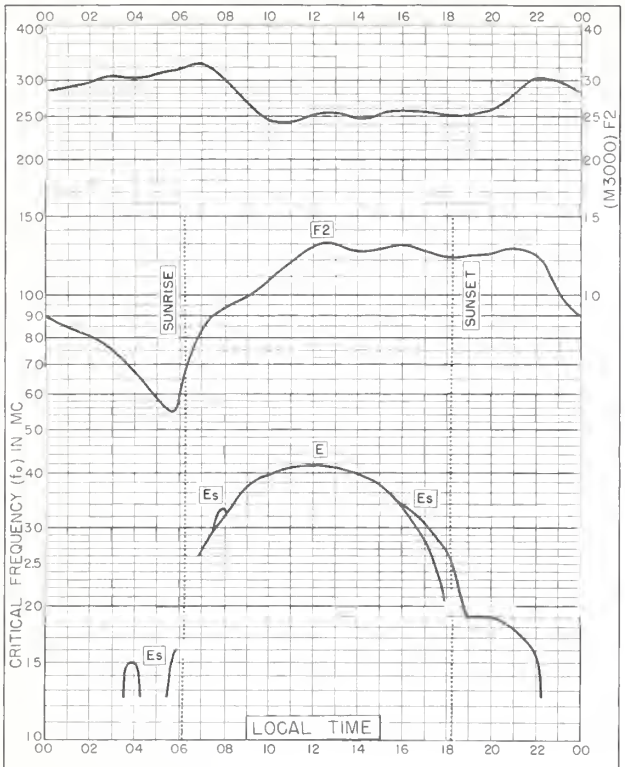


Fig. 29. LWIRO, BELGIAN CONGO
2.3°S, 28.8°E JANUARY 1960

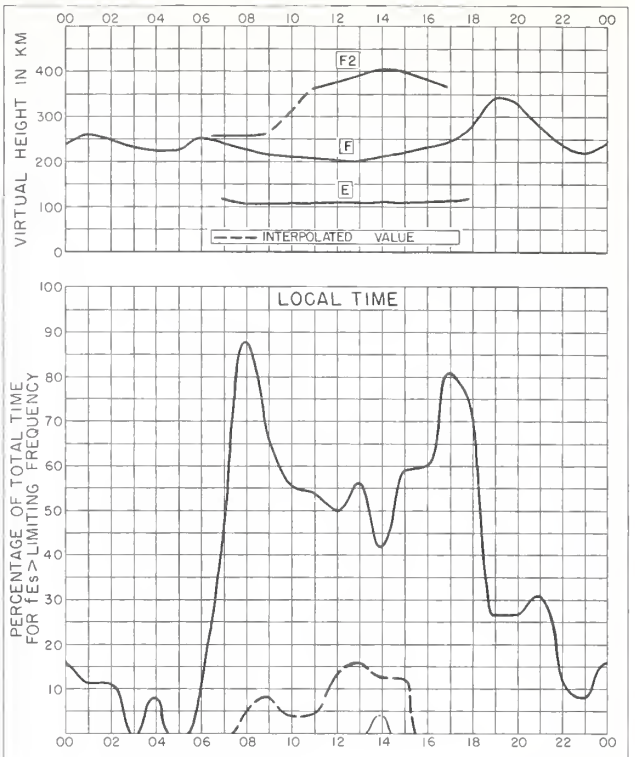


Fig. 30. LWIRO, BELGIAN CONGO JANUARY 1960

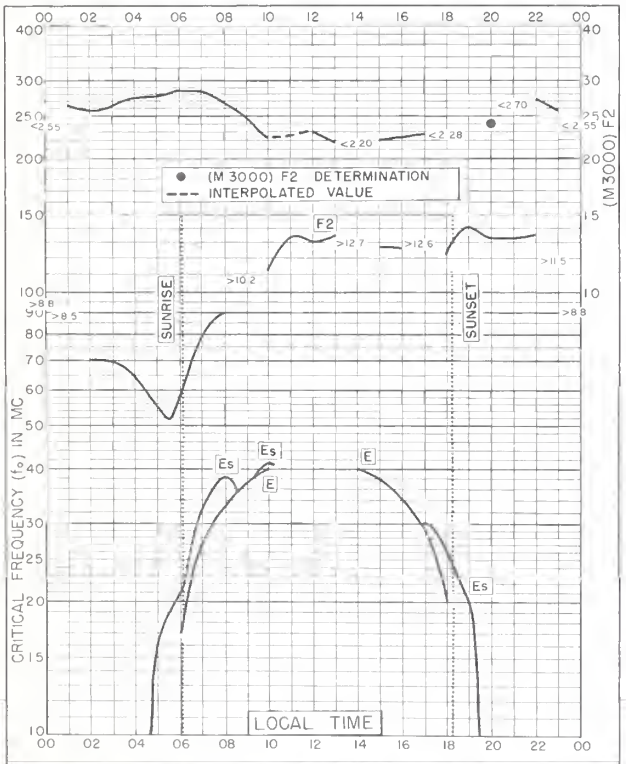


Fig. 31. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E JANUARY 1960

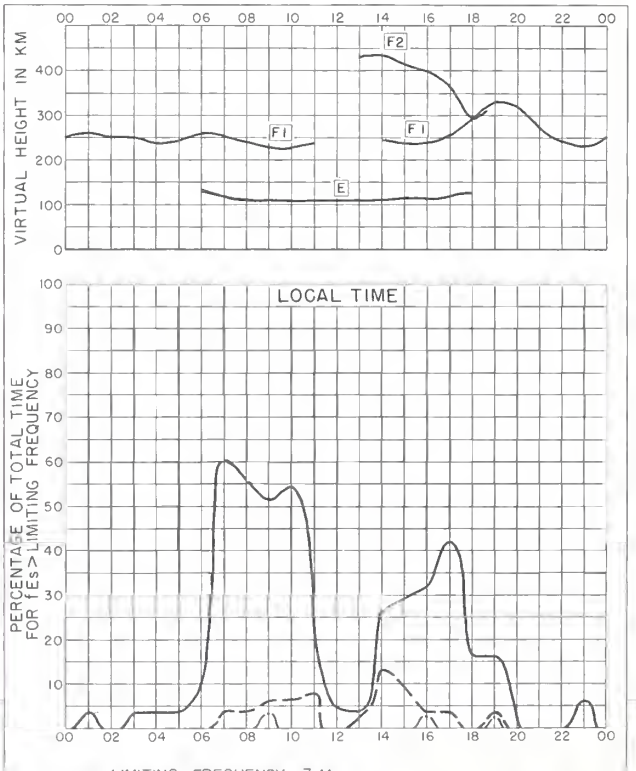


Fig. 32. LEOPOLDVILLE, BELGIAN CONGO JANUARY 1960

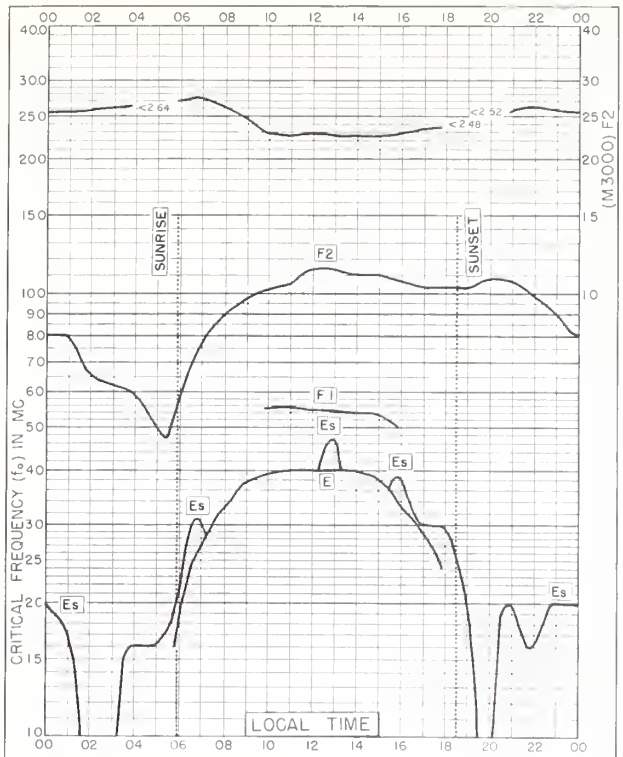


Fig. 33. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E JANUARY 1960

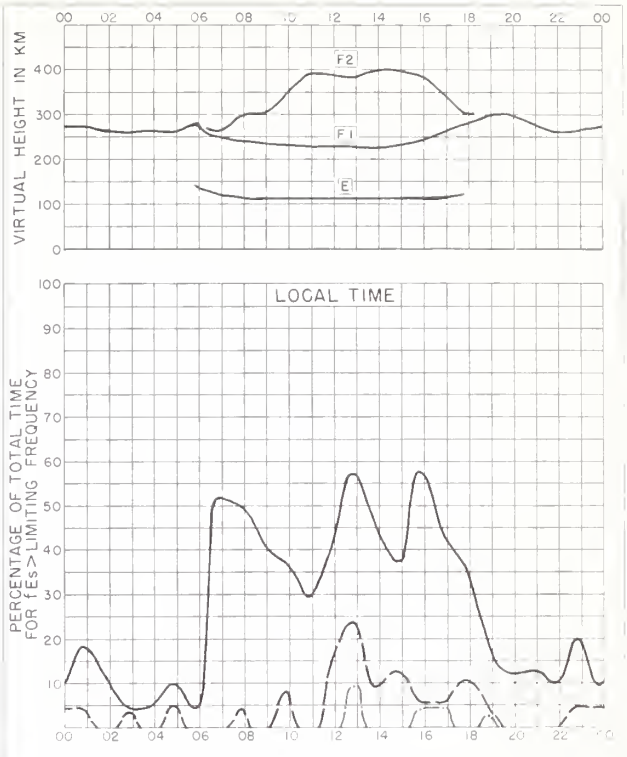


Fig. 34. ELISABETHVILLE, BELGIAN CONGO

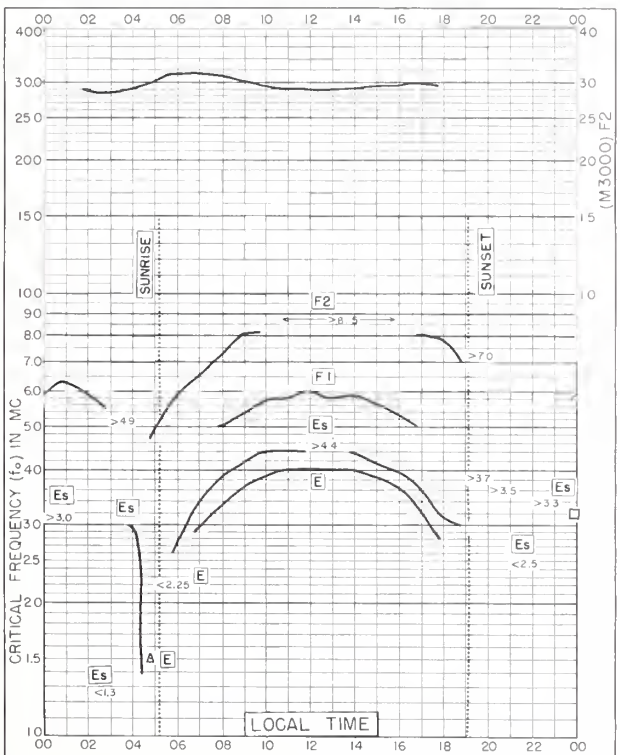


Fig. 35. MUNDARING, W. AUSTRALIA
32.0°S, 116.2°E JANUARY 1960

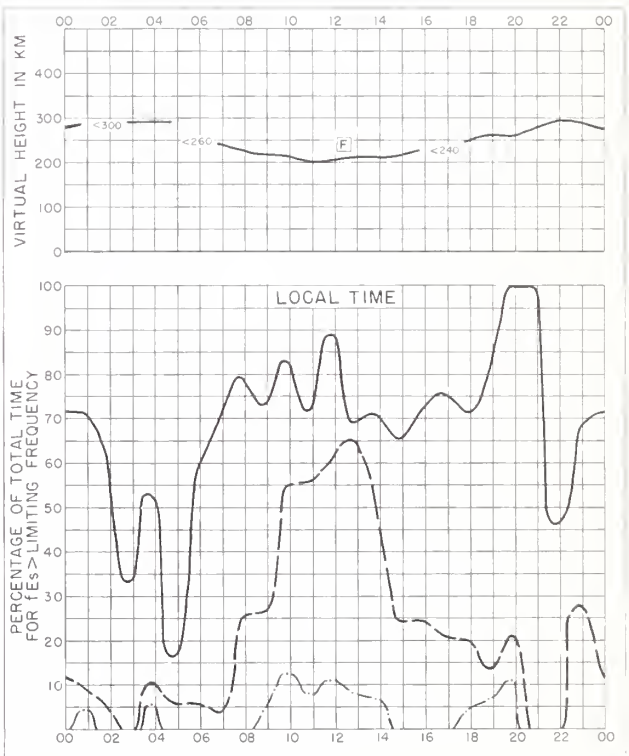


Fig. 36. MUNDARING, W. AUSTRALIA

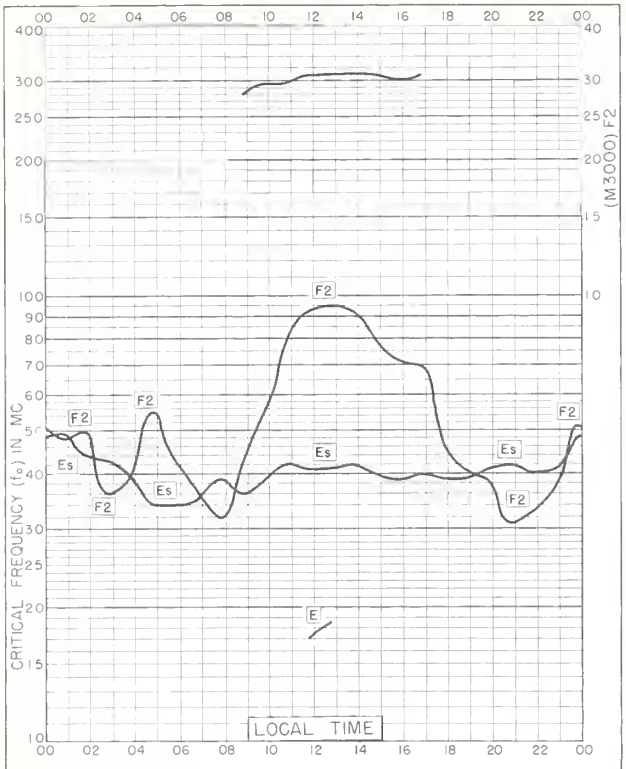


Fig. 37. SODANKYLA, FINLAND
67.4°N, 26.6°E DECEMBER 1959

NBS 503

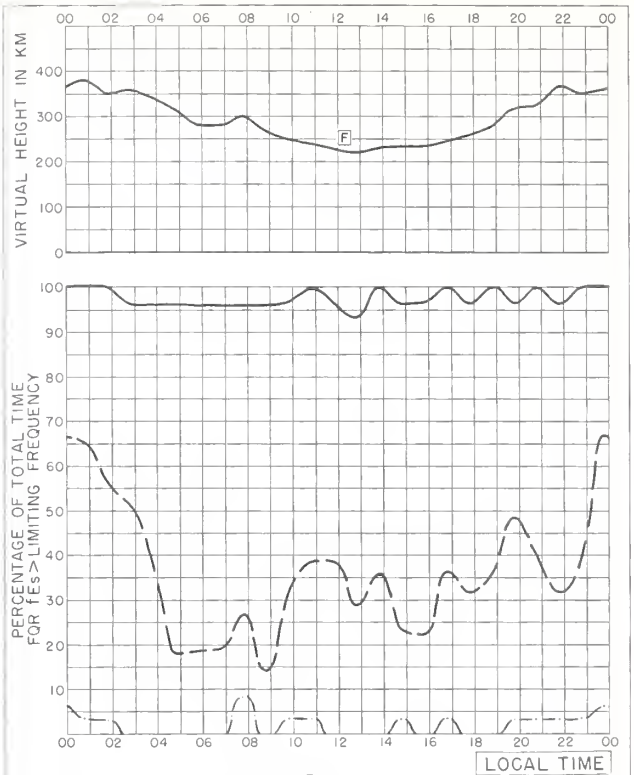


Fig. 38. SODANKYLA, FINLAND DECEMBER 1959

NBS 490

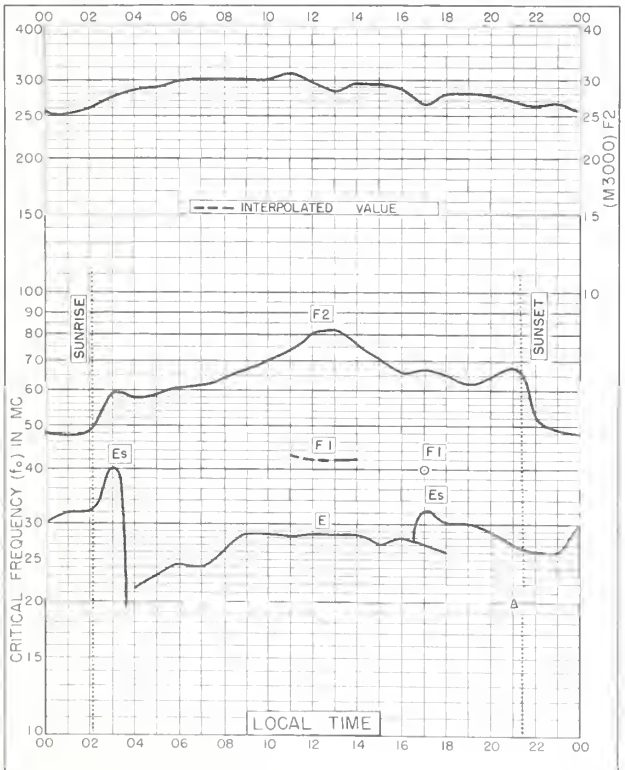


Fig 39. BYRD STATION
80.0° S, 120 0° W OCTOBER 1959

NBS 503

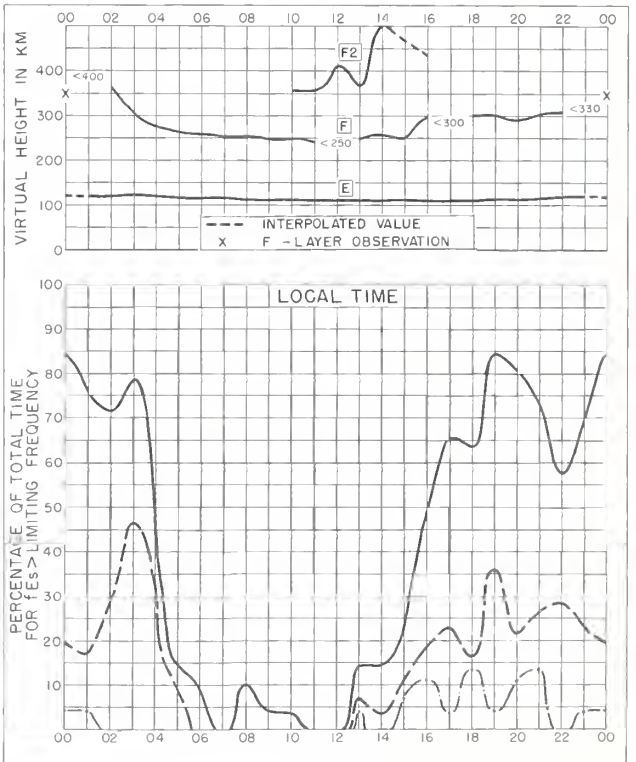


Fig 40. BYRD STATION OCTOBER 1959

NBS 490

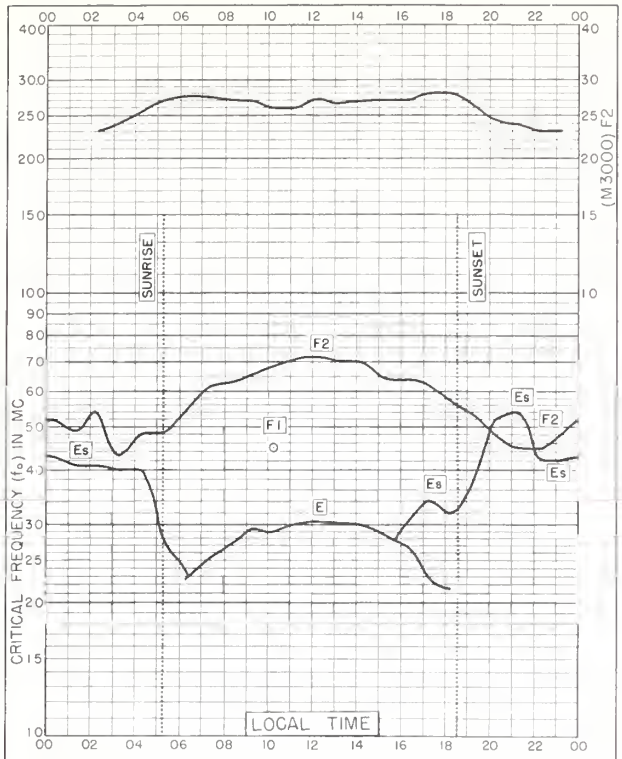


Fig. 41. TROMSO, NORWAY
69.7°N, 19.0°E SEPTEMBER 1959

NBS 503

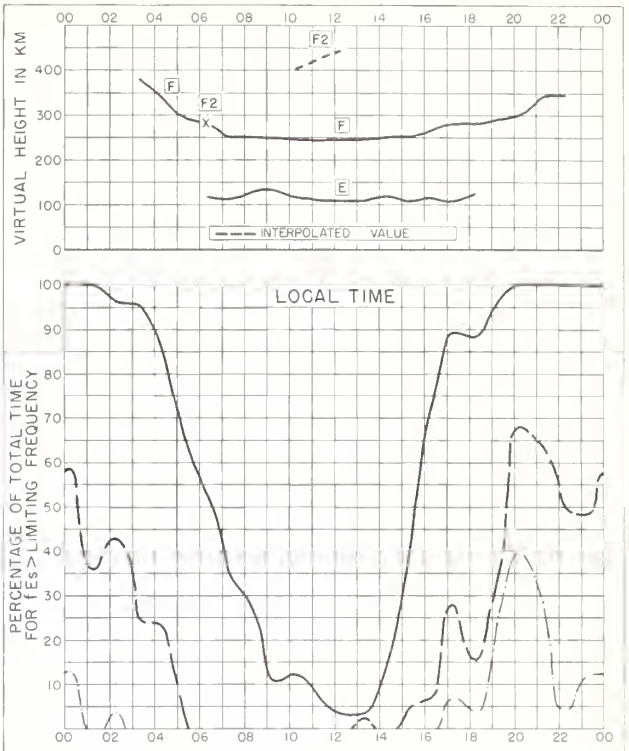


Fig. 42. TROMSO, NORWAY SEPTEMBER 1959

NBS 490

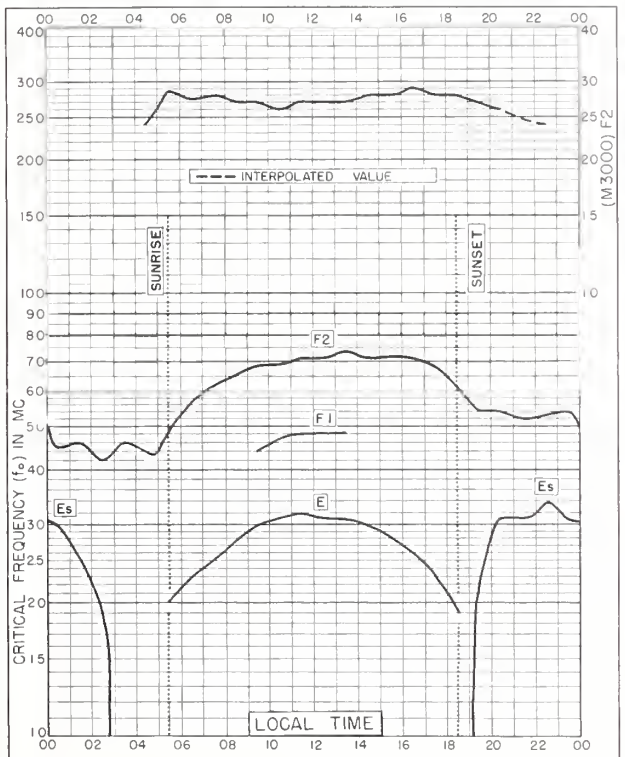


Fig. 43. LULEA, SWEDEN
65.6°N, 22.1°E SEPTEMBER 1959

NBS 503

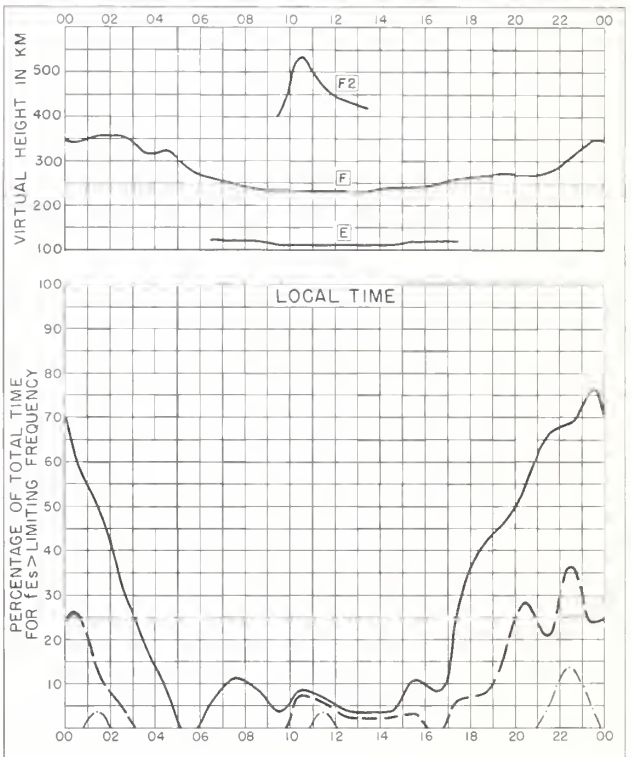


Fig. 44. LULEA, SWEDEN SEPTEMBER 1959

NBS 490

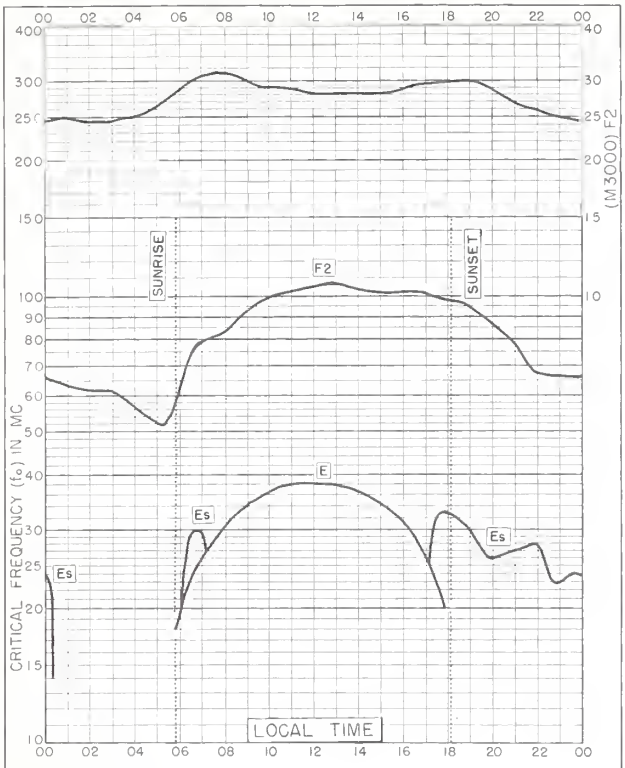


Fig. 45. ROME, ITALY
41.8°N, 12.5°E SEPTEMBER 1959

NBS 503

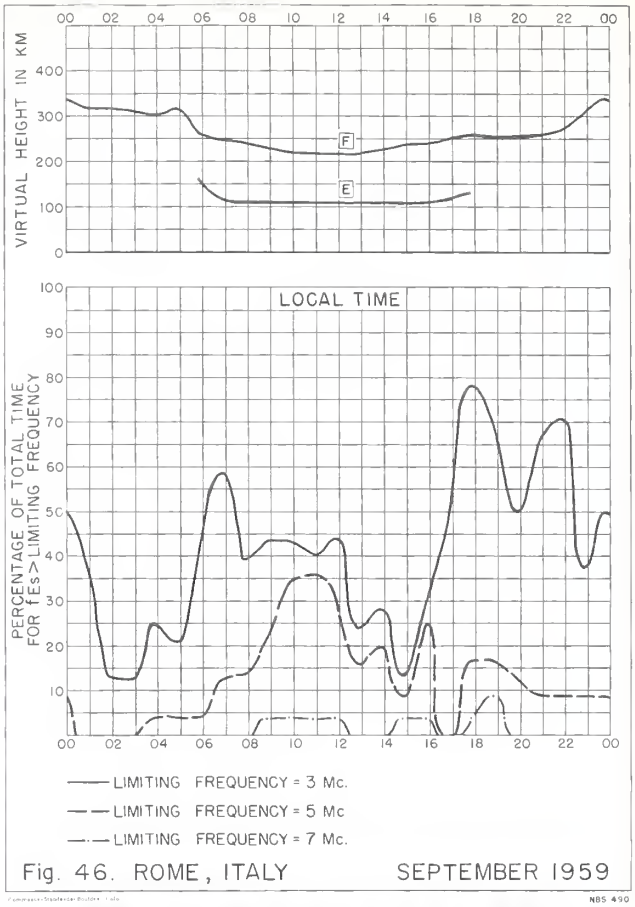


Fig. 46. ROME, ITALY SEPTEMBER 1959

NBS 490

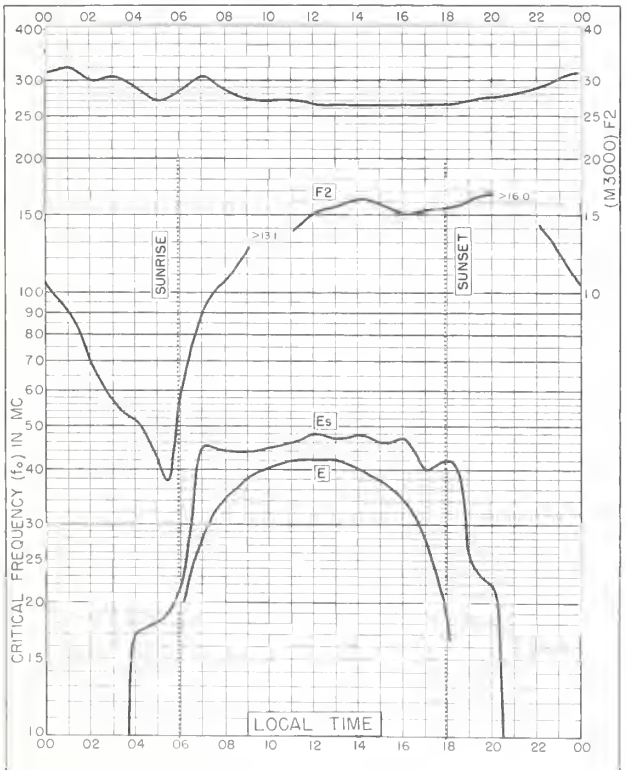


Fig 47. BOGOTA, COLOMBIA
4.5°N, 74.2°W SEPTEMBER 1959

NBS 503

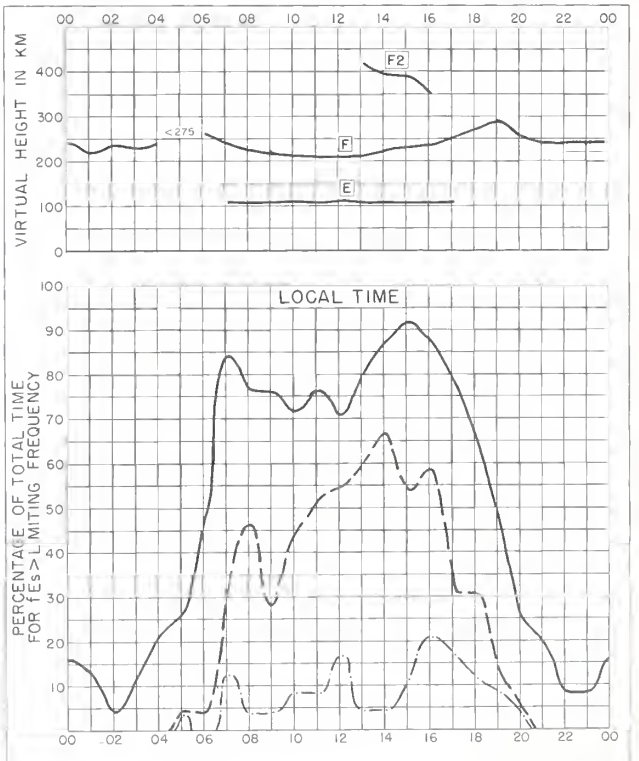


Fig 48. BOGOTA, COLOMBIA SEPTEMBER 1959

NBS 490

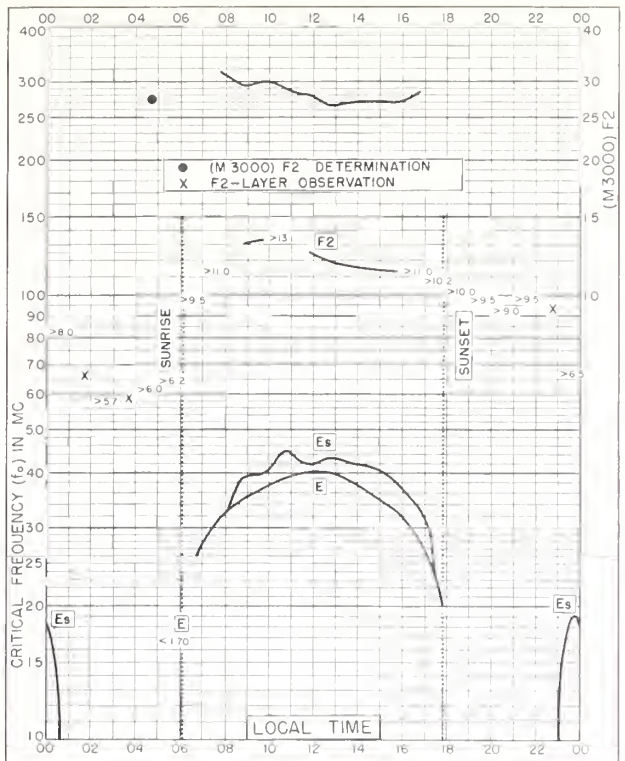


Fig. 49. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E SEPTEMBER 1959

NBS 503

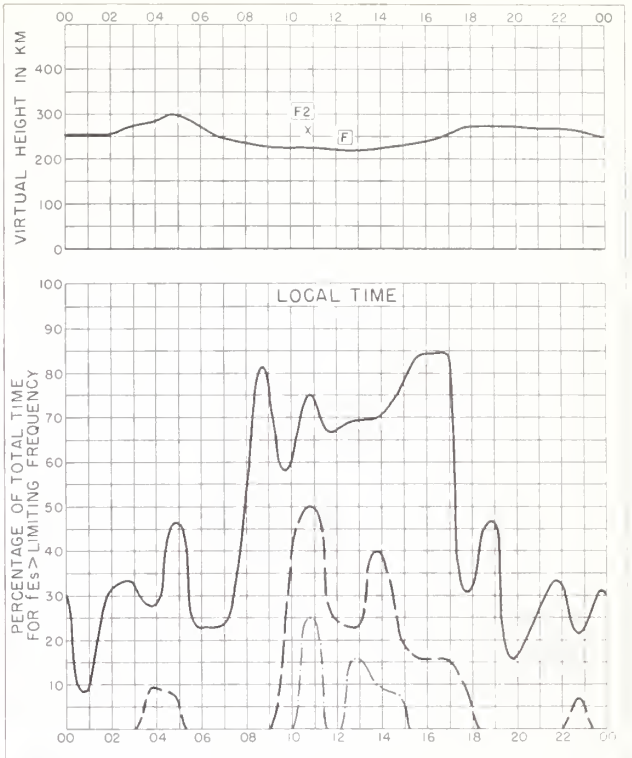


Fig. 50. TOWNSVILLE, AUSTRALIA SEPTEMBER 1959

NBS 490

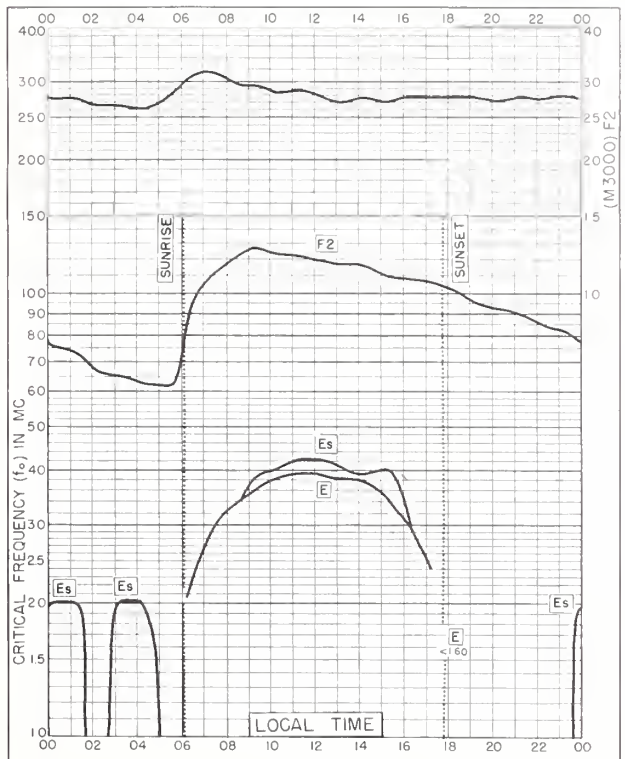


Fig. 51. BRISBANE, AUSTRALIA
27.5°S, 152.9°E SEPTEMBER 1959

NBS 503

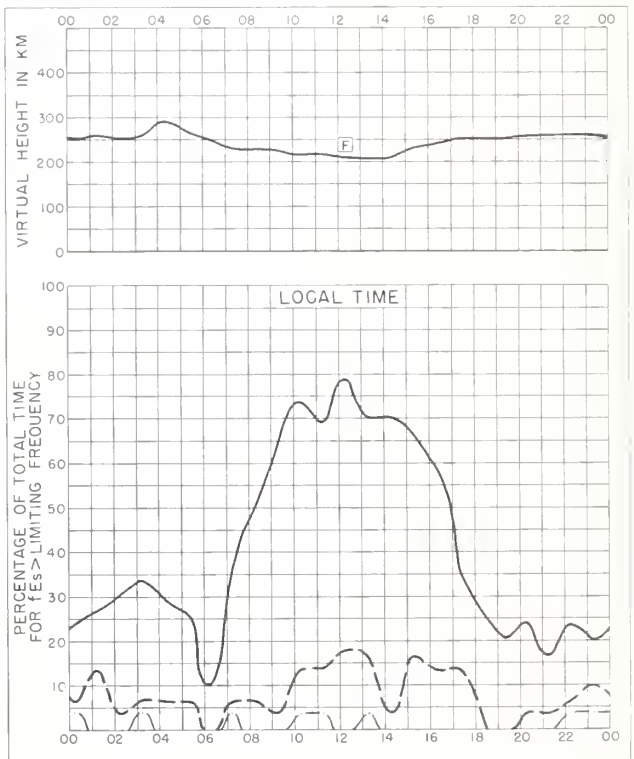


Fig. 52. BRISBANE, AUSTRALIA SEPTEMBER 1959

NBS 490

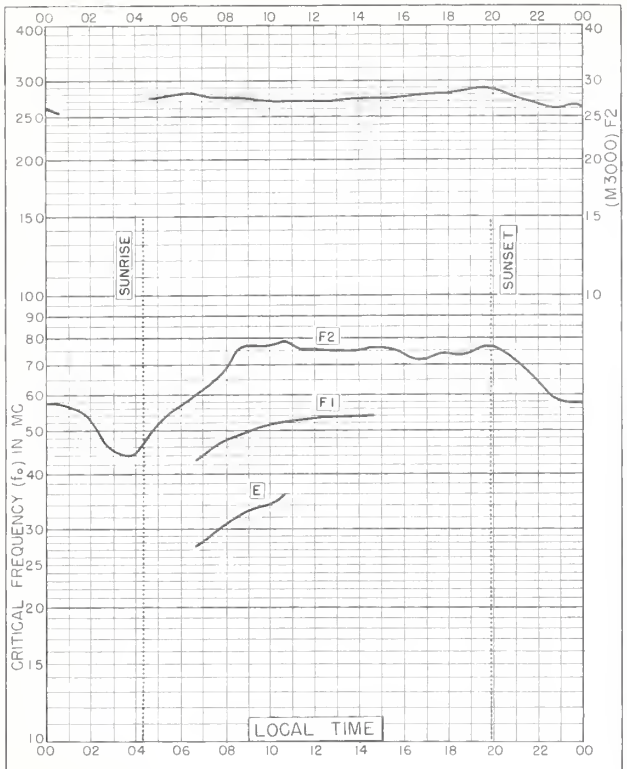


Fig. 53. NURMIJARVI, FINLAND
60.5°N, 24.6°E AUGUST 1959

NBS 503

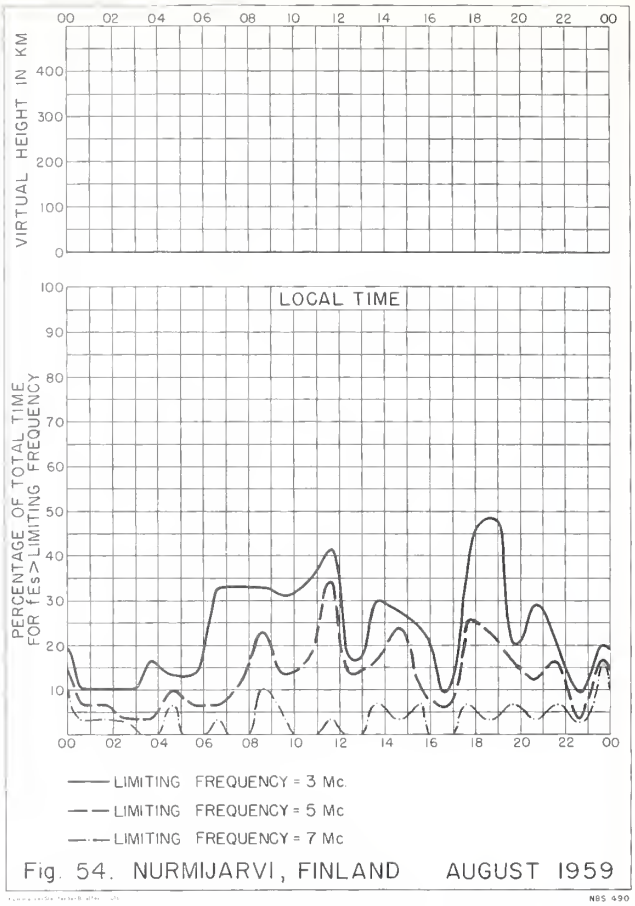


Fig. 54. NURMIJARVI, FINLAND AUGUST 1959

NBS 490

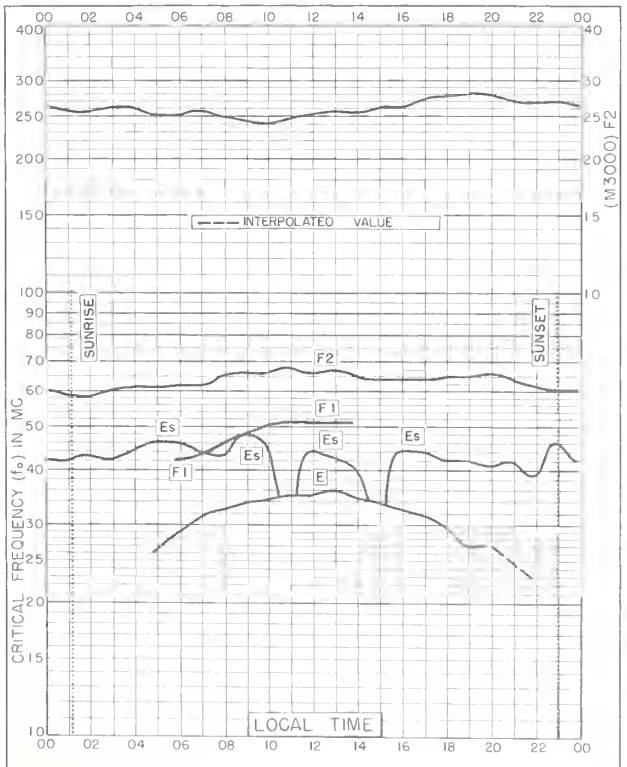


Fig. 55. SODANKYLA, FINLAND
67.4° N, 26.6° E JULY 1959

NBS 503

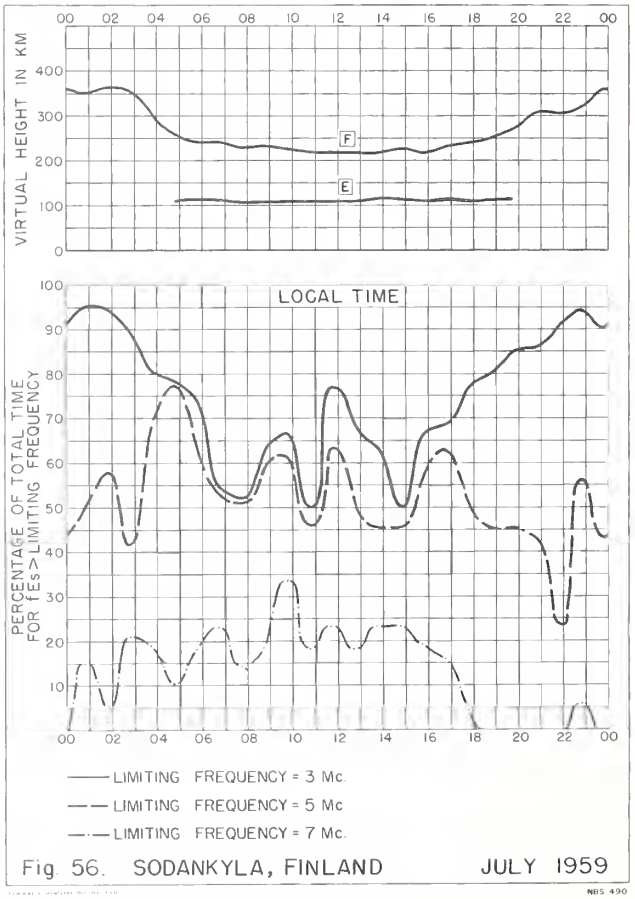


Fig. 56. SODANKYLA, FINLAND JULY 1959

NBS 490

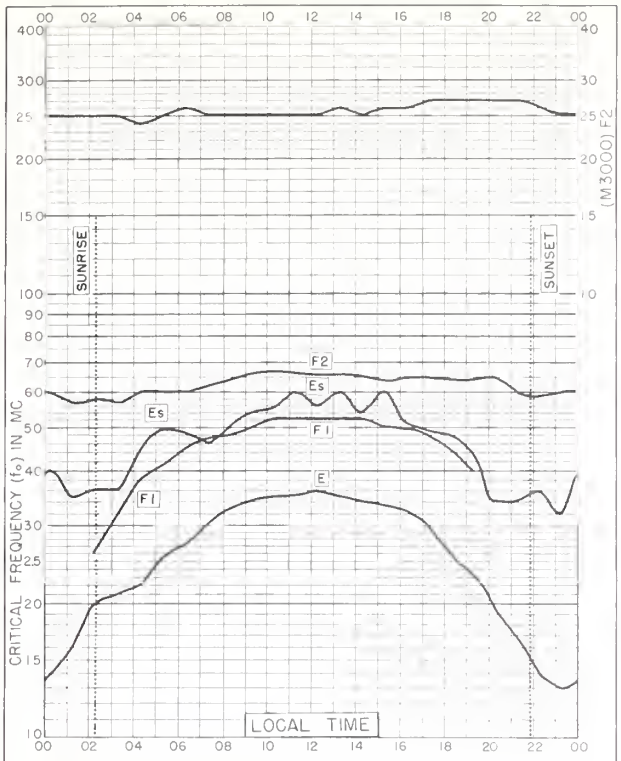


Fig. 57. LYCKSELE, SWEDEN
64.6°N, 18.8°E JULY 1959

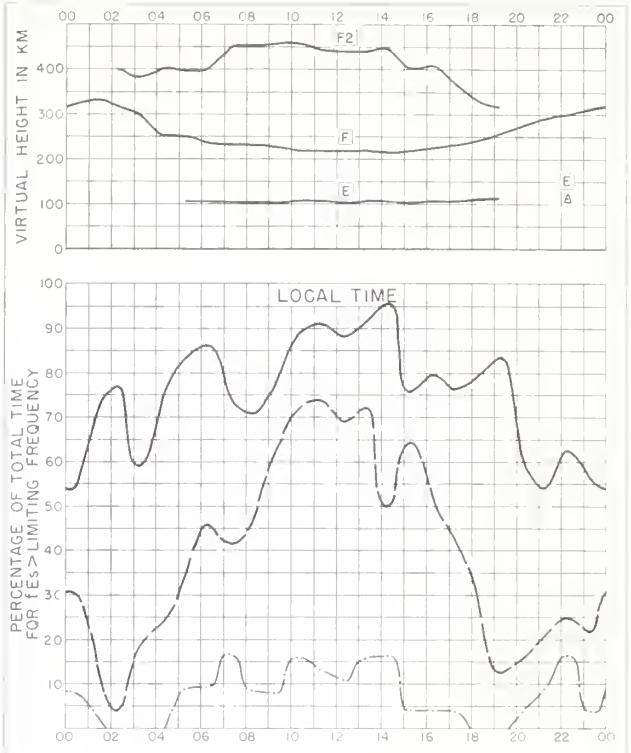


Fig. 58. LYCKSELE, SWEDEN JULY 1959

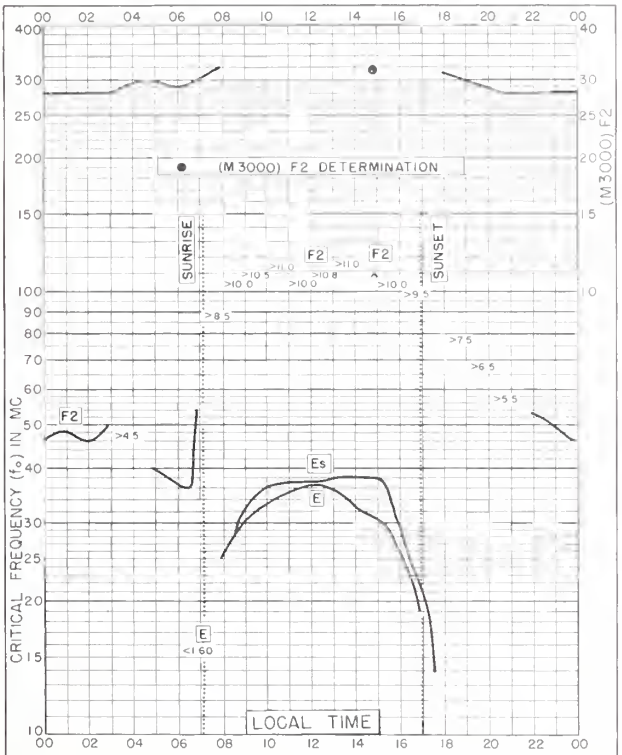


Fig. 59. CANBERRA, AUSTRALIA
35.3° S, 149.0°E JULY 1959

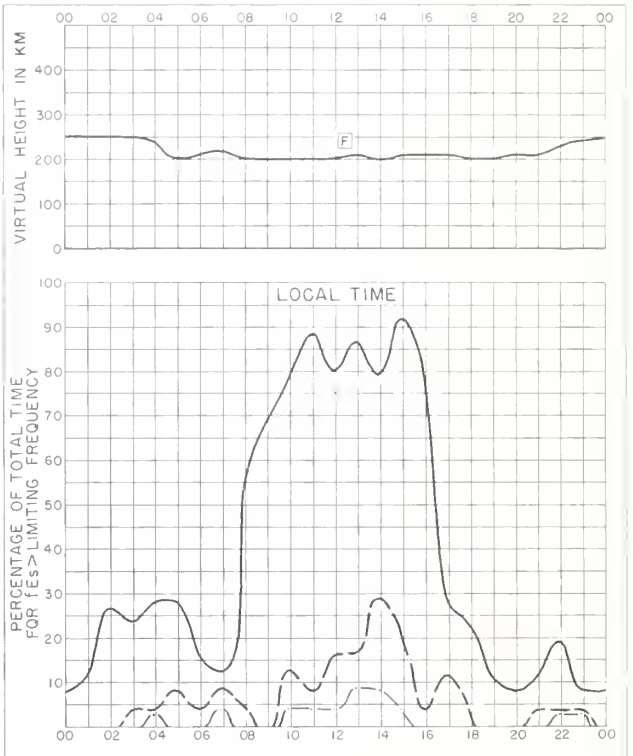


Fig. 60. CANBERRA, AUSTRALIA JULY 1959

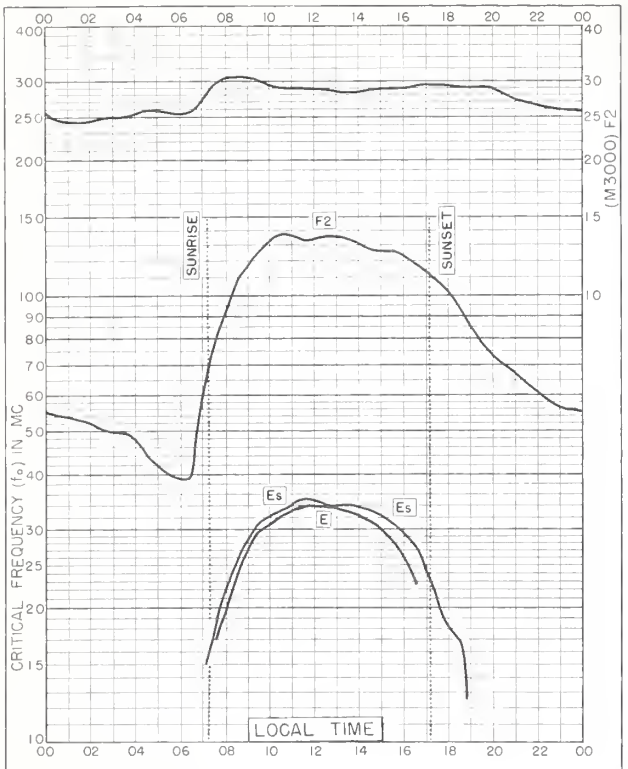


Fig. 61. FREIBURG, GERMANY
48.1°N, 7.6°E FEBRUARY 1959

NBS 503

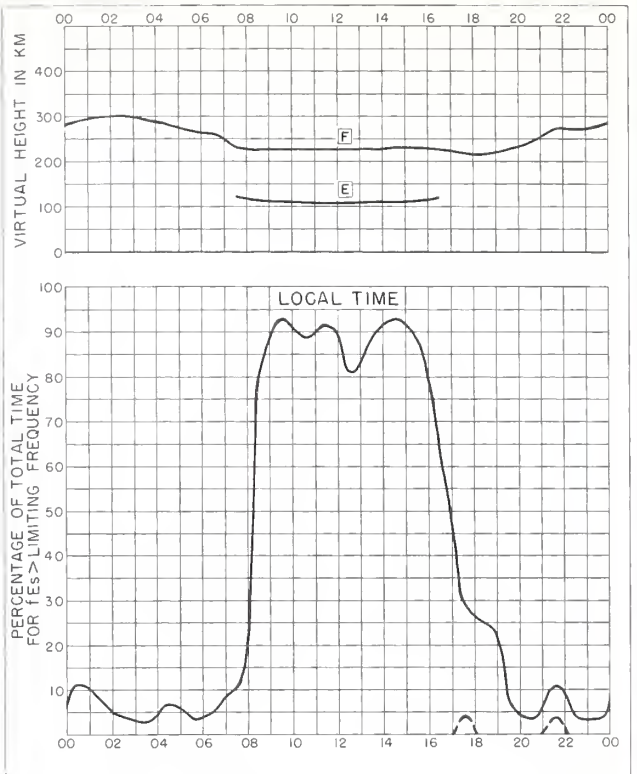


Fig. 62. FREIBURG, GERMANY FEBRUARY 1959

NBS 490

Fig. 63. EUREKA, CANADA
80.0° N, 85.9° W JANUARY 1959

NBS 503

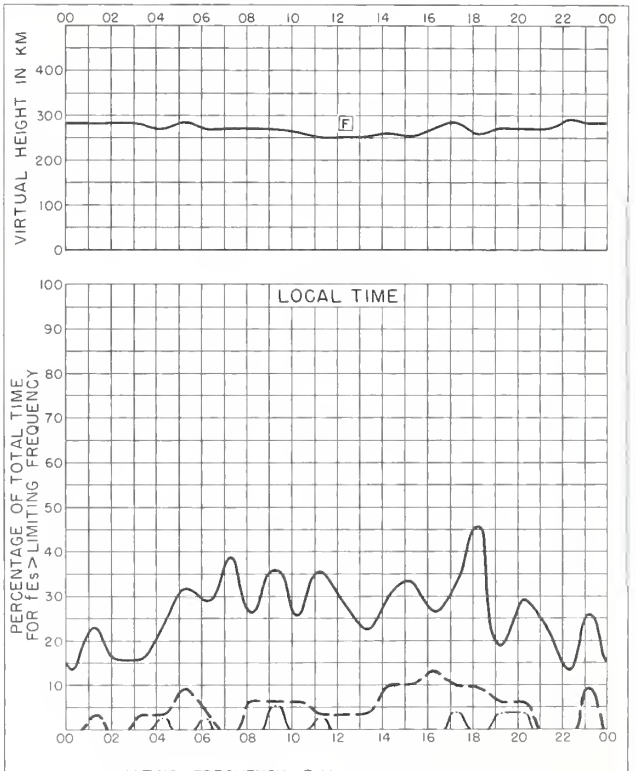


Fig. 64. EUREKA, CANADA JANUARY 1959

NBS 490

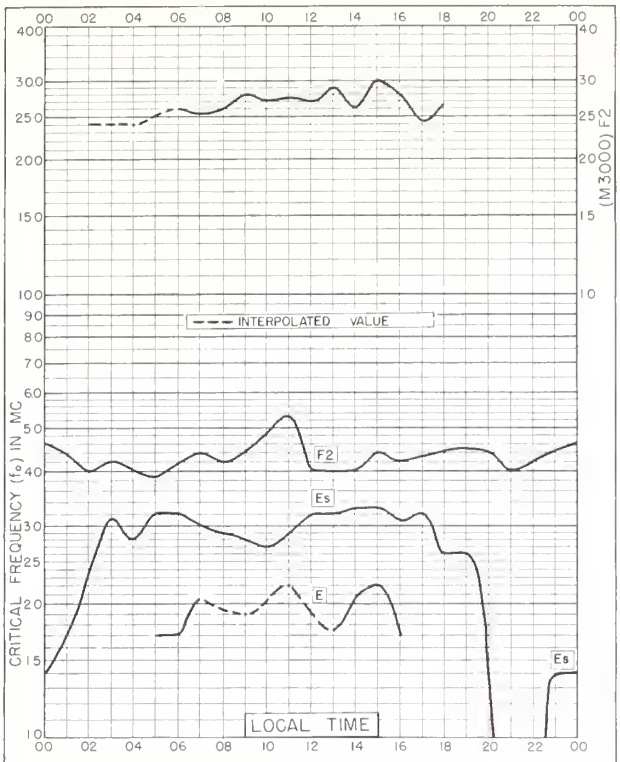


Fig. 65. SVALBARD, NORWAY
78.2° N, 15.7° E JANUARY 1959

NBS 503

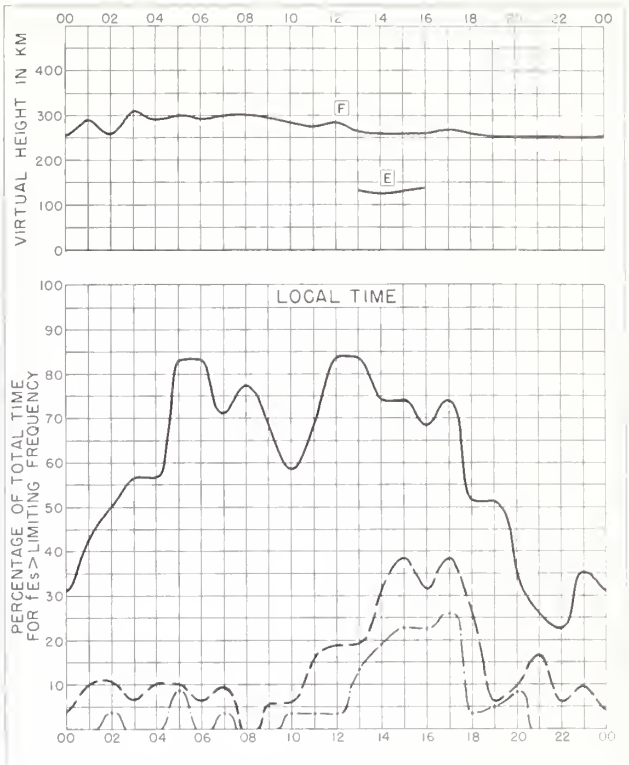


Fig 66. SVALBARD, NORWAY JANUARY 1959

NBS 490

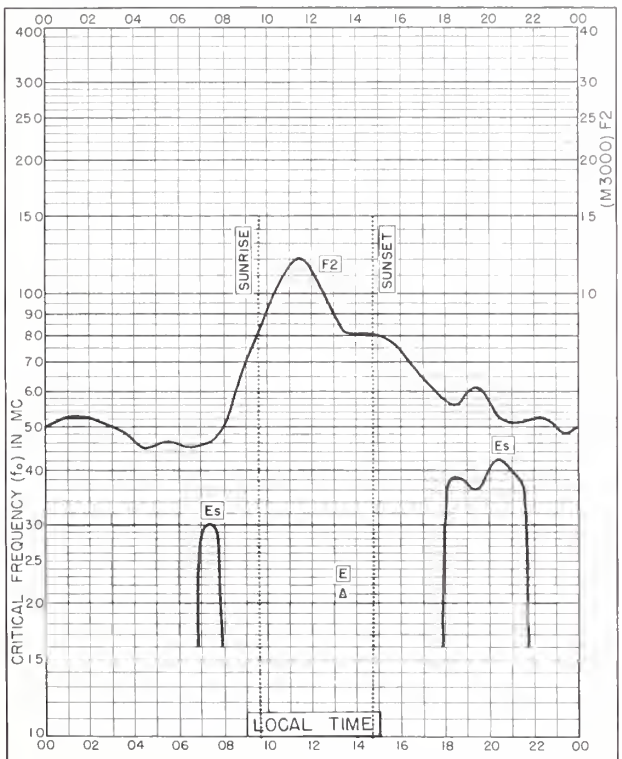


Fig. 67. FROBISHER, CANADA
63.8° N, 68.6° W JANUARY 1959

NBS 503

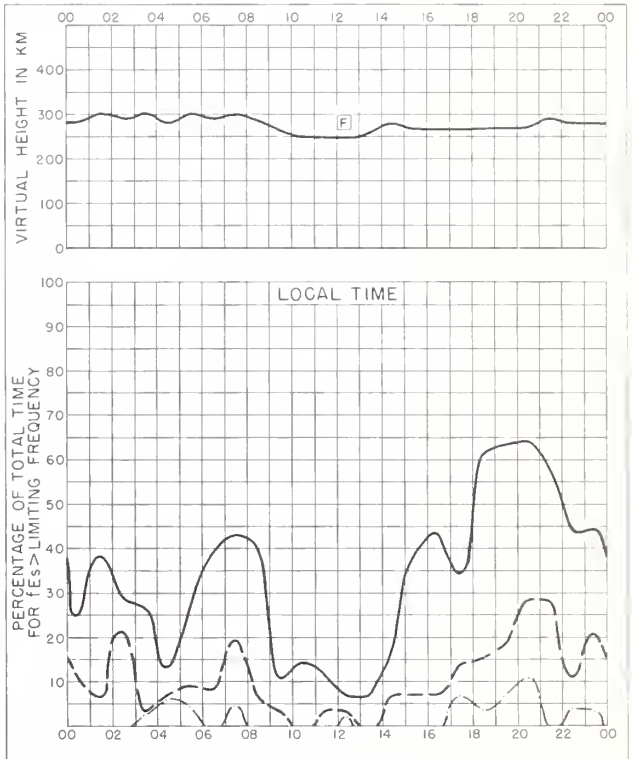


Fig. 68. FROBISHER, CANADA JANUARY 1959

NBS 490

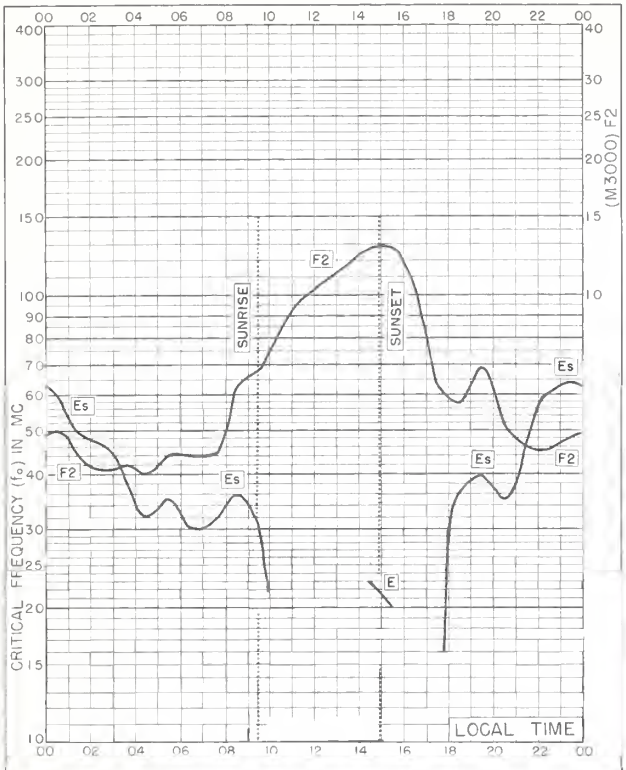


Fig. 69. YELLOWKNIFE, CANADA
62.4°N, 114.4°W JANUARY 1959

NBS 503

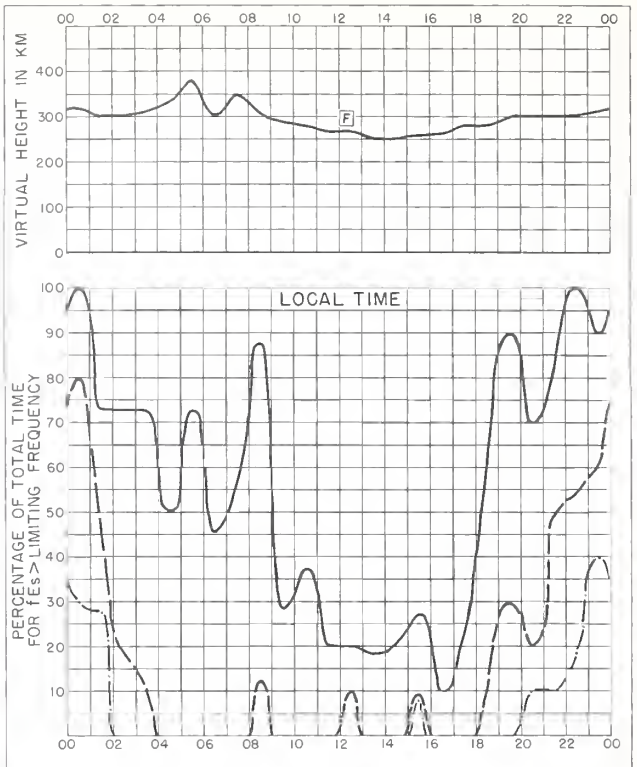


Fig. 70. YELLOWKNIFE, CANADA JANUARY 1959

NBS 490

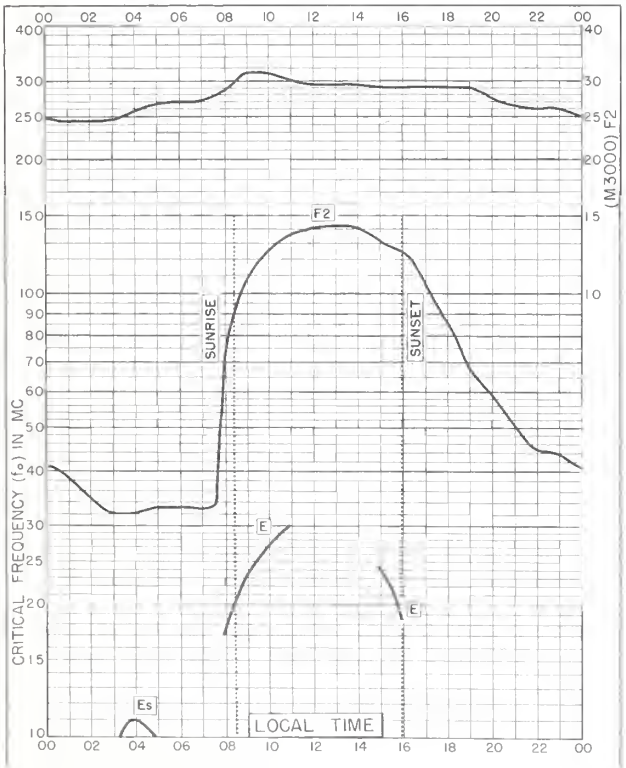


Fig. 71. JULIUSRUH/RÜGEN, GERMANY
54.6°N, 13.4°E JANUARY 1959

NBS 503

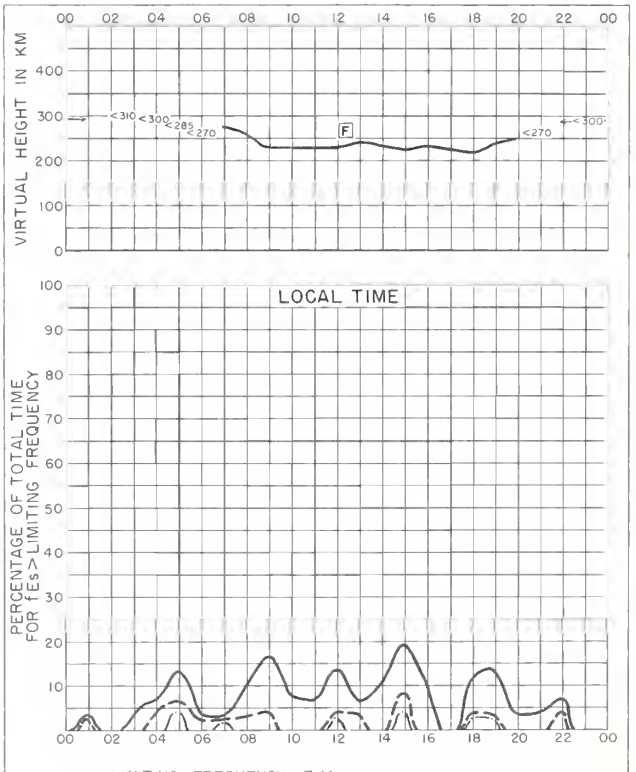


Fig. 72. JULIUSRUH/RÜGEN, GERMANY JANUARY 1959

NBS 490

Fig. 73. MEANOOK, CANADA
54.6° N, 113.3° W JANUARY 1959

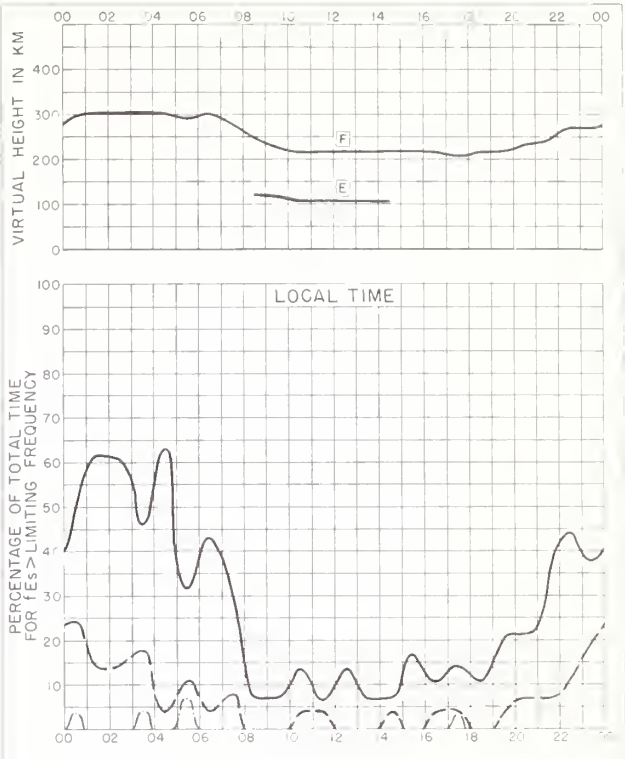


Fig. 74. MEANOOK, CANADA JANUARY 1959

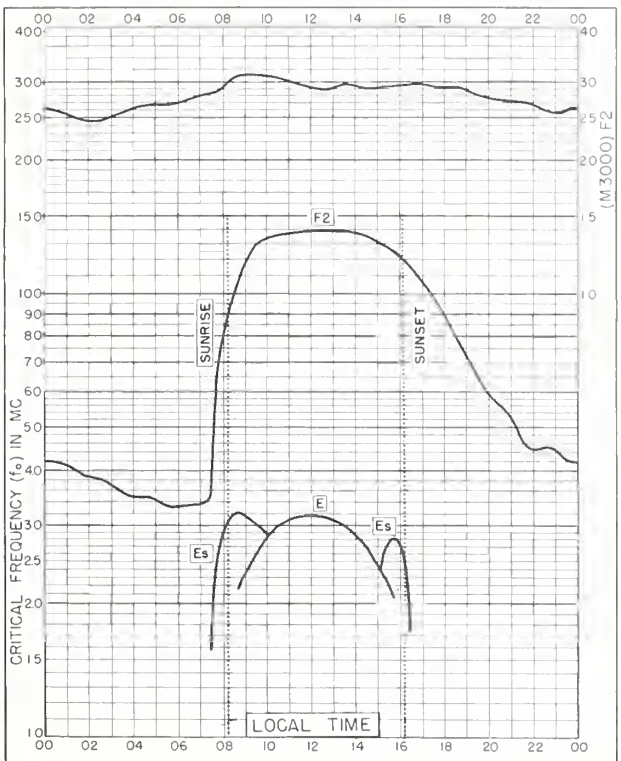


Fig. 75. LINDAU/HARZ, GERMANY
51.6° N, 10.1° E JANUARY 1959

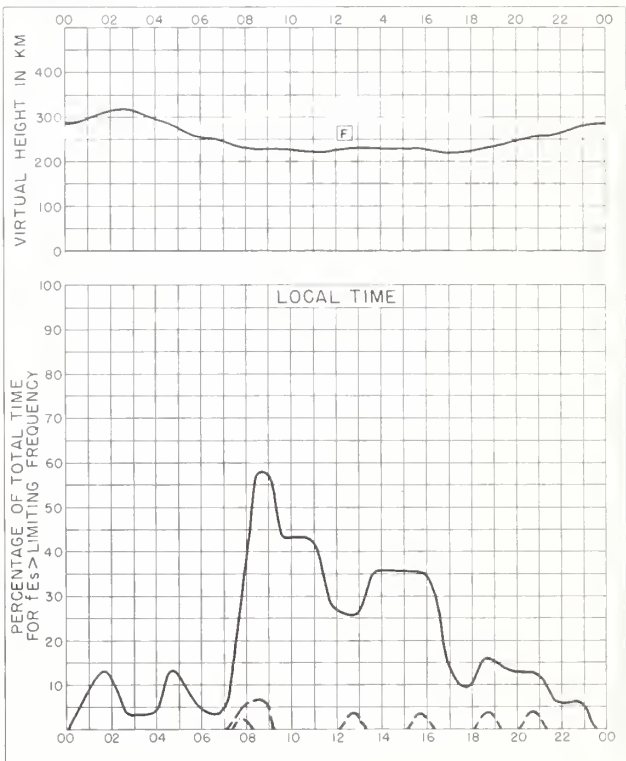


Fig. 76. LINDAU/HARZ, GERMANY JANUARY 1959

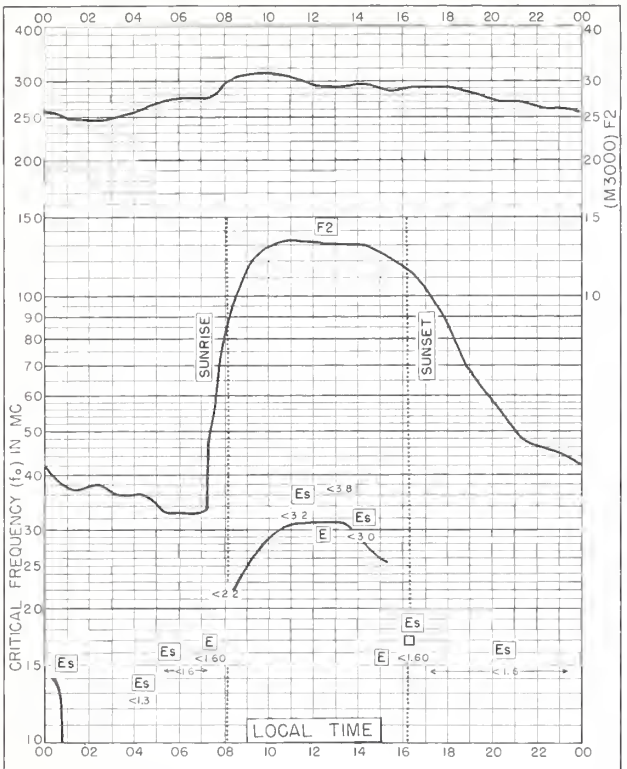


Fig. 77. DOURBES, BELGIUM
50.1°N, 4.6°E JANUARY 1959

NBS 503

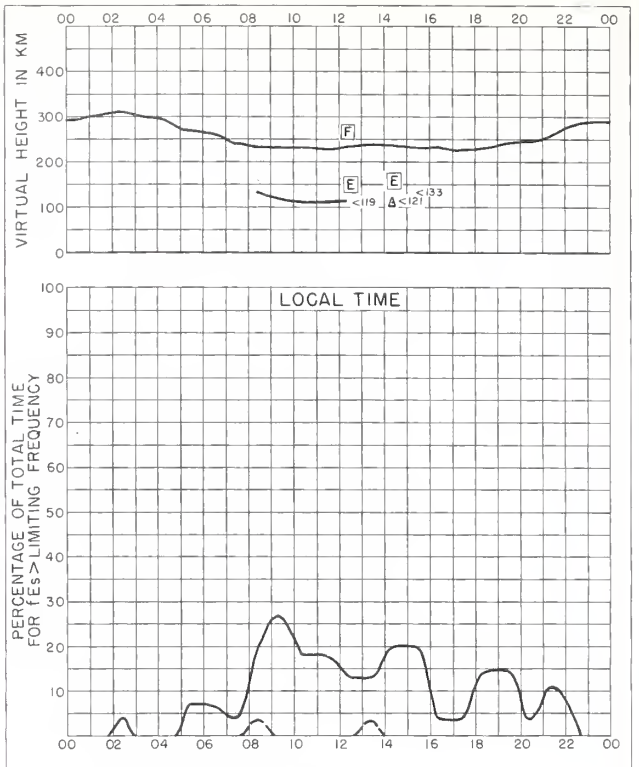


Fig. 78. DOURBES, BELGIUM JANUARY 1959

NBS 490

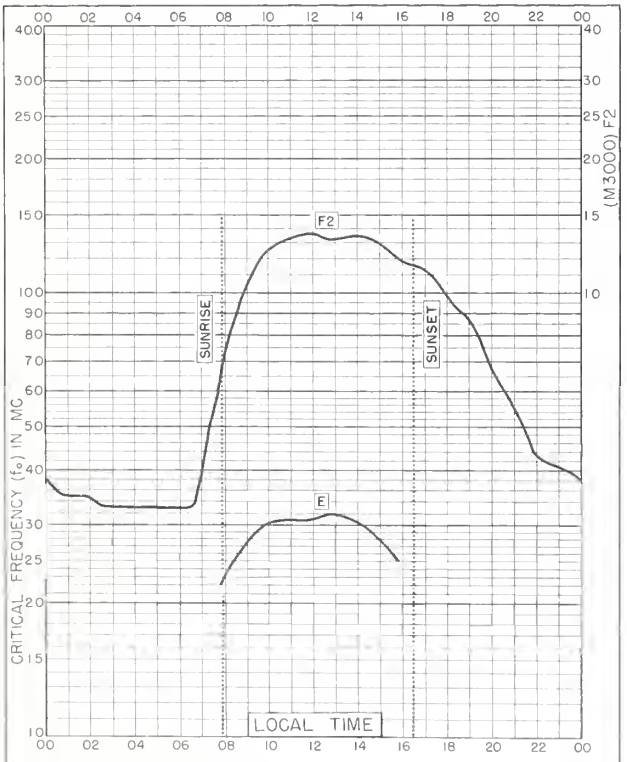


Fig. 79. VICTORIA, CANADA
48.4°N, 123.4°W JANUARY 1959

NBS 503

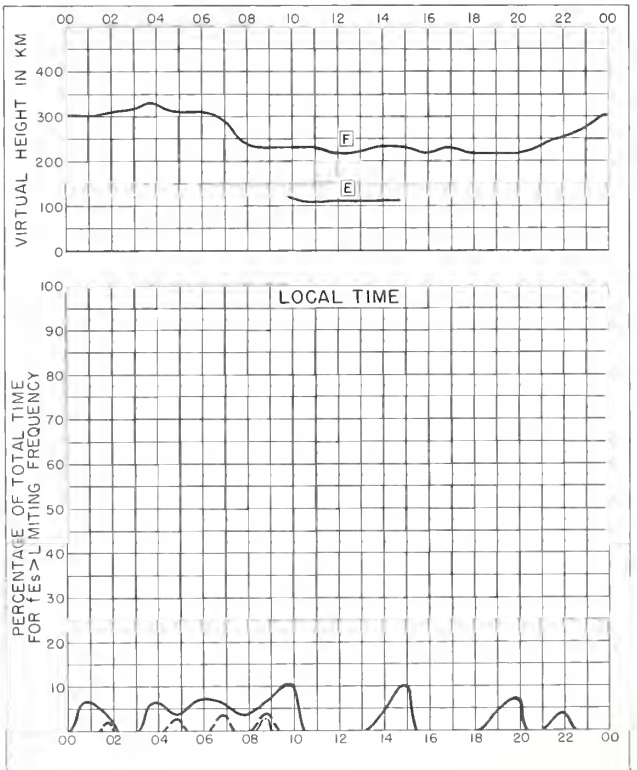


Fig. 80. VICTORIA, CANADA JANUARY 1959

NBS 490

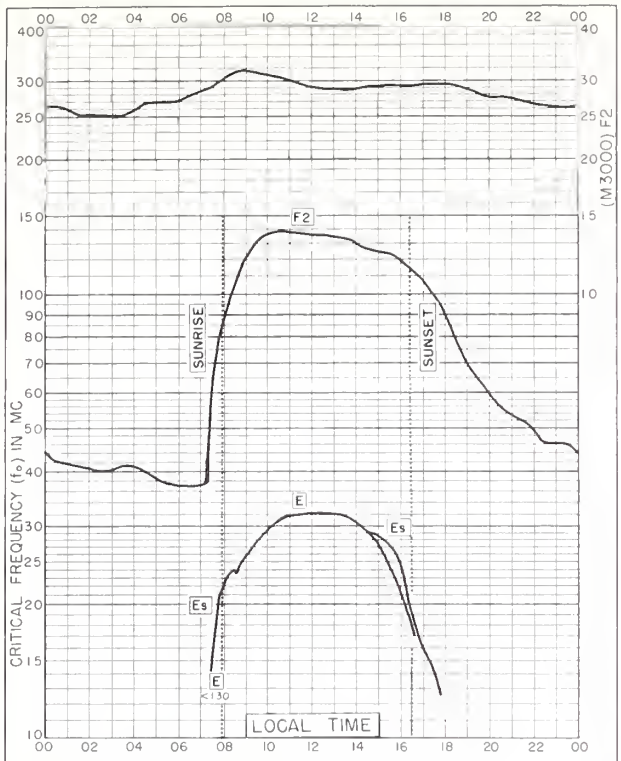


Fig. 81. FREIBURG, GERMANY
48.1°N, 7.6°E JANUARY 1959

NBS 503

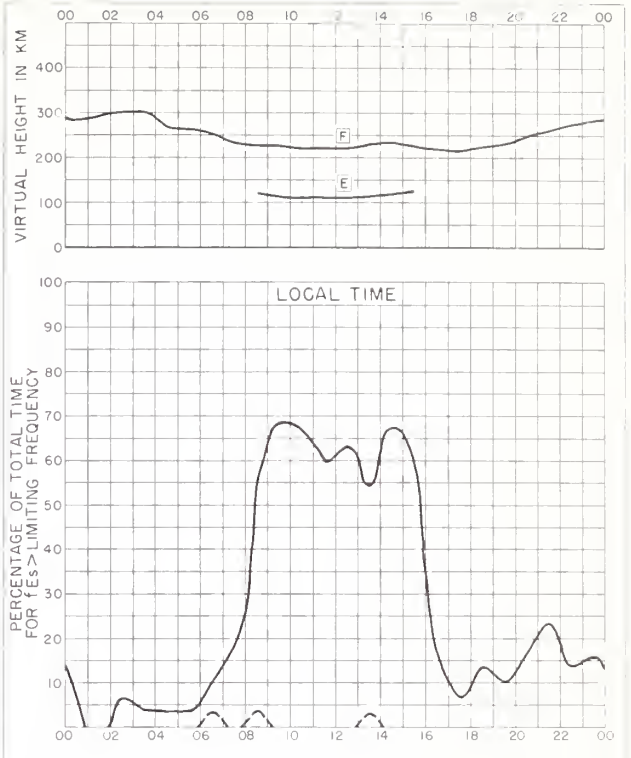


Fig. 82. FREIBURG, GERMANY JANUARY 1959

NBS 490

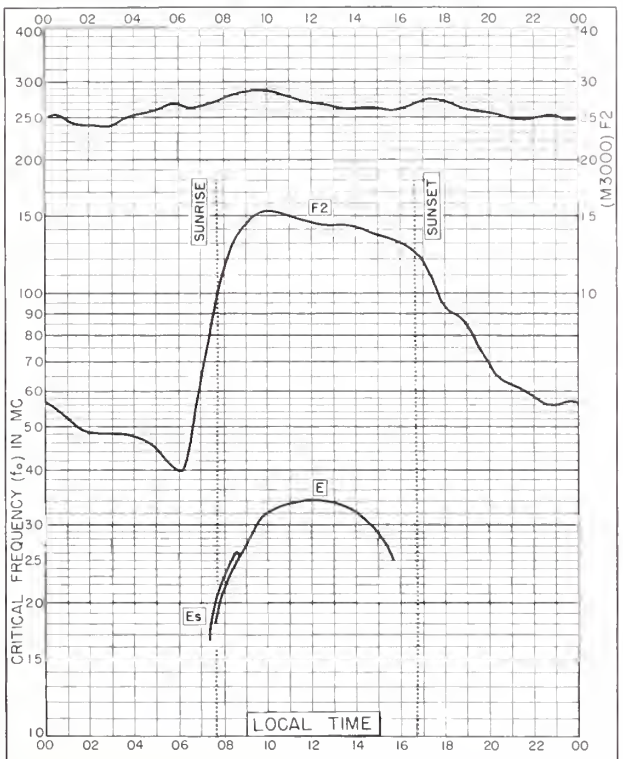


Fig. 83. GENOVA-MONTE CAPELLINO, ITALY
44.6° N, 9.0°E JANUARY 1959

NBS 503

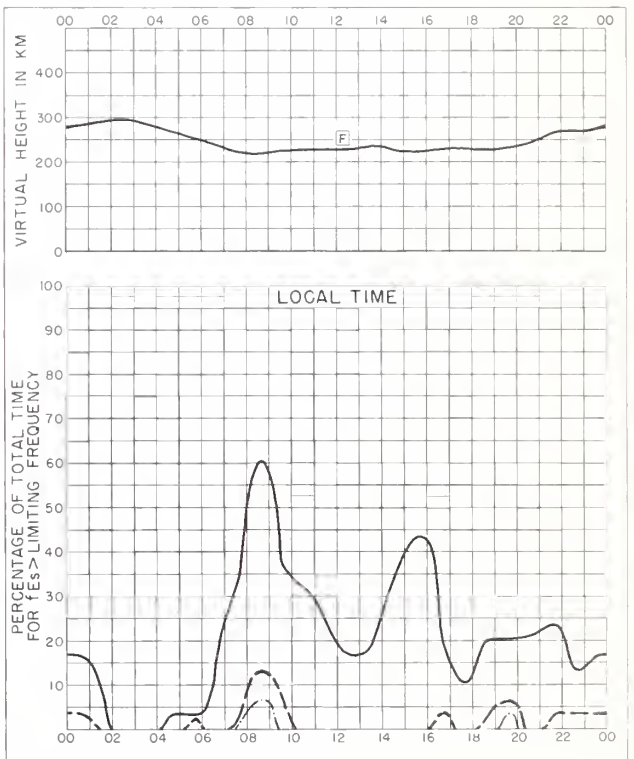


Fig. 84. GENOVA-MONTE CAPELLINO, ITALY JANUARY 1959

NBS 490

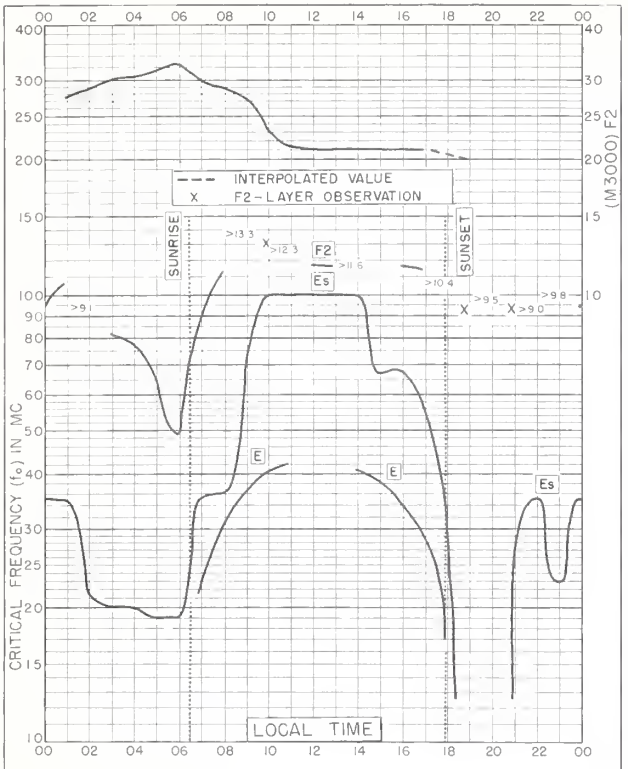
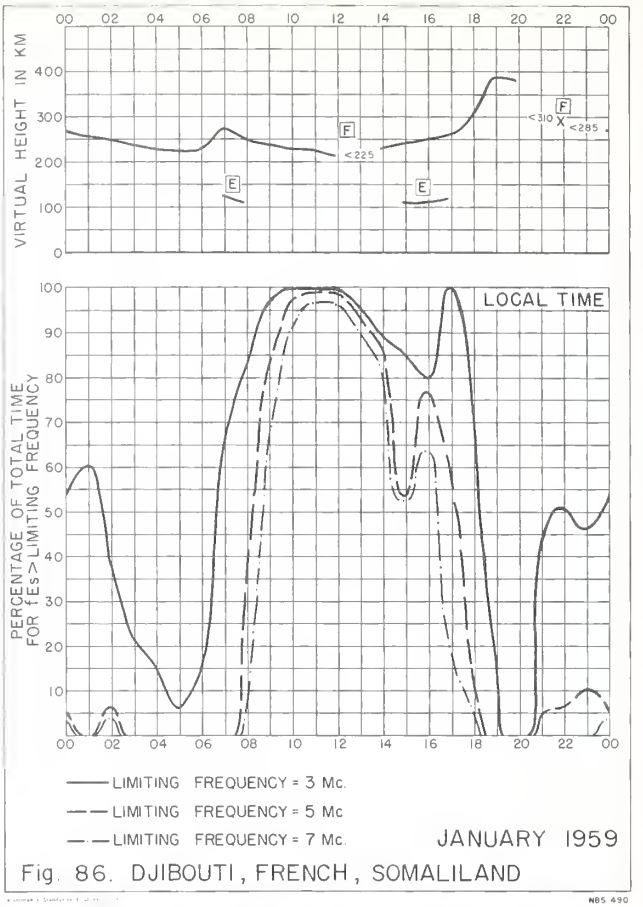


Fig. 85. DJIBOUTI, FRENCH, SOMALILAND
11.6°N, 43.2°E JANUARY 1959

NBS 503



JANUARY 1959

Fig. 86. DJIBOUTI, FRENCH, SOMALILAND

NBS 490

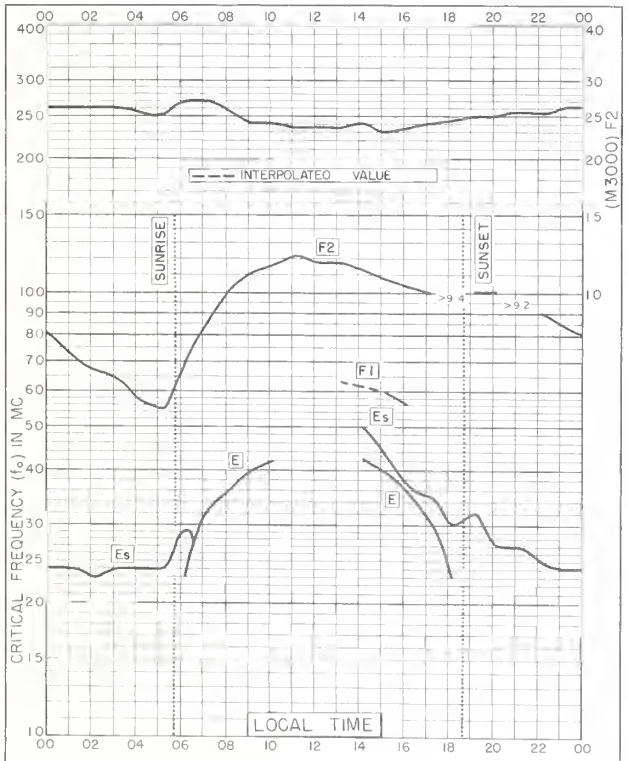
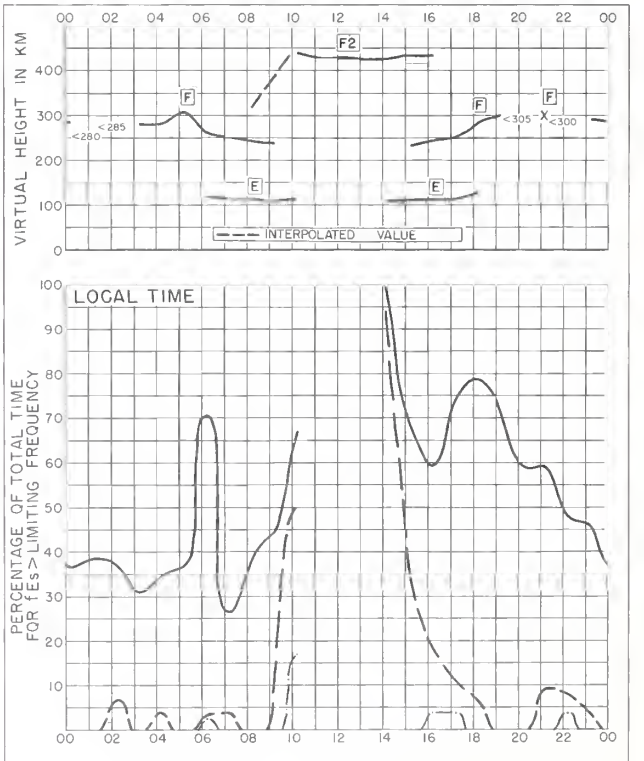


Fig. 87. TANANARIVE, MADAGASCAR
18.8°S, 47.5°E JANUARY 1959

NBS 503



JANUARY 1959

Fig. 88. TANANARIVE, MADAGASCAR

NBS 490

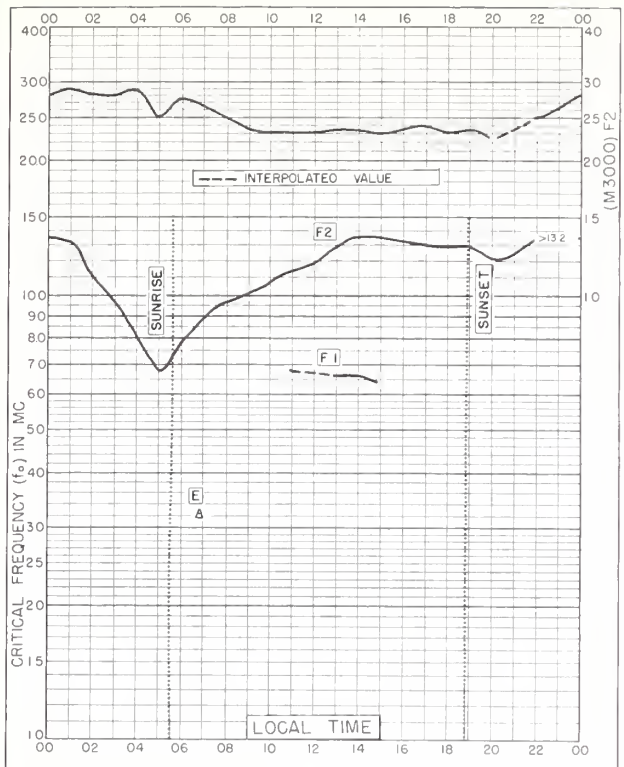


Fig. 89. SAO PAULO, BRAZIL
23.5°S, 46.5°W JANUARY 1959

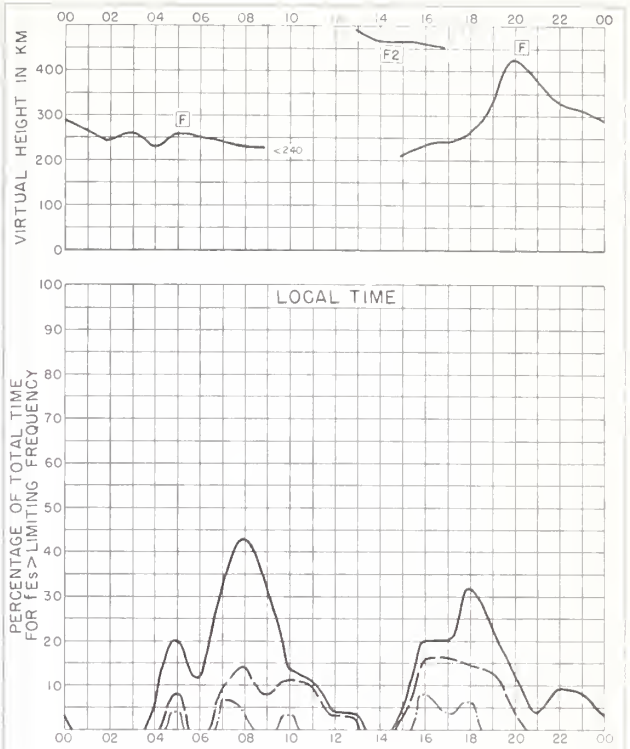


Fig. 90. SAO PAULO, BRAZIL JANUARY 1959

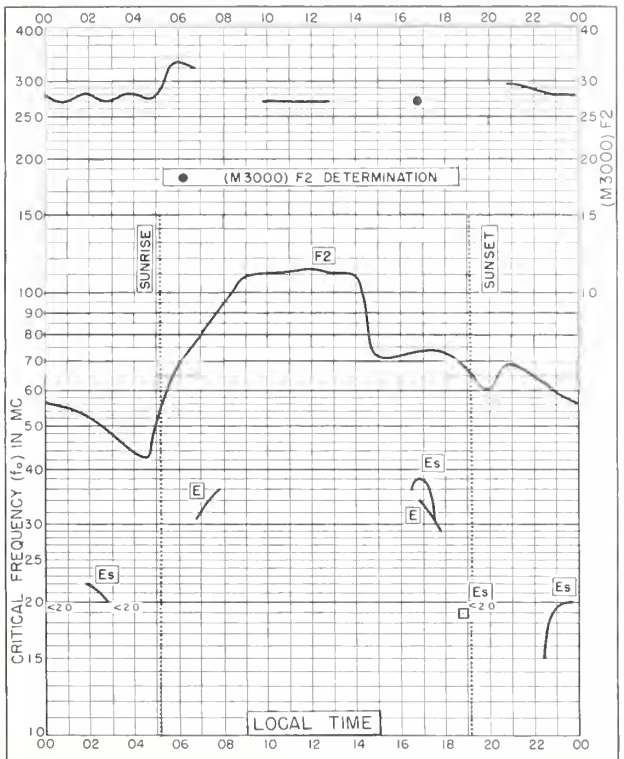


Fig. 91. GRAHAMSTOWN, UNION OF S. AFRICA
33.3°S, 26.5°E JANUARY 1959

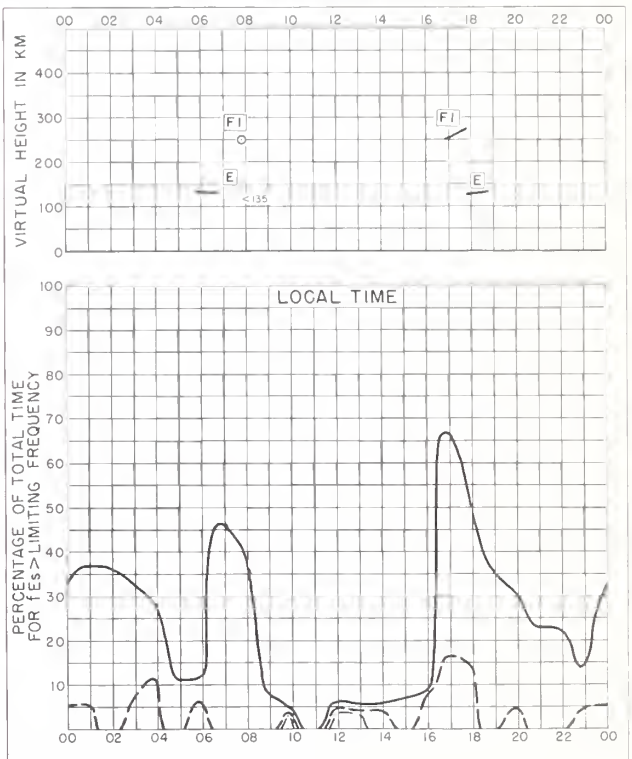


Fig. 92. GRAHAMSTOWN, UNION OF S. AFRICA JANUARY 1959

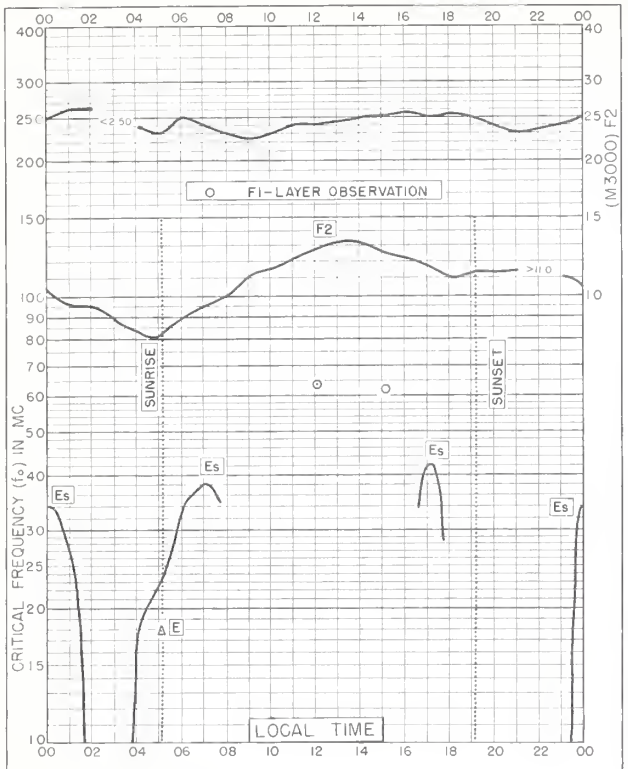
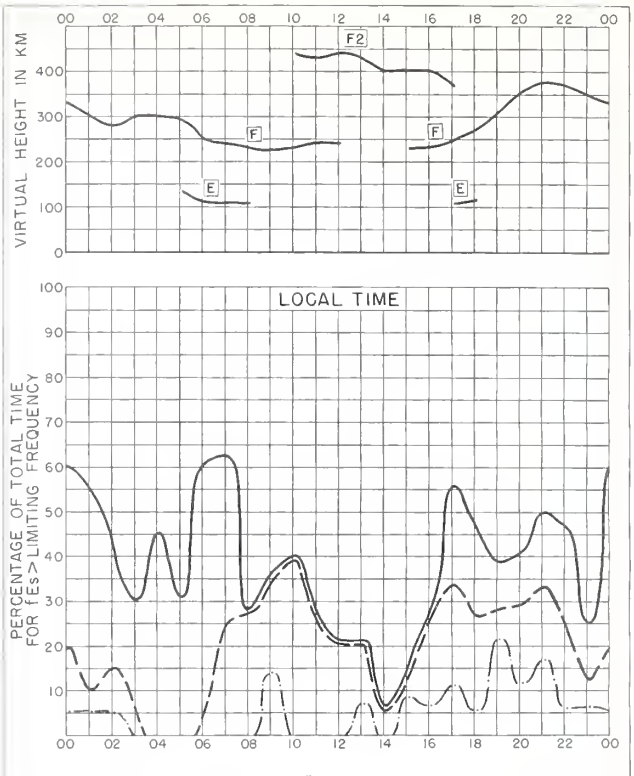


Fig. 93. BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W JANUARY 1959

NBS 503



JANUARY 1959

Fig. 94. BUENOS AIRES, ARGENTINA

NBS 490

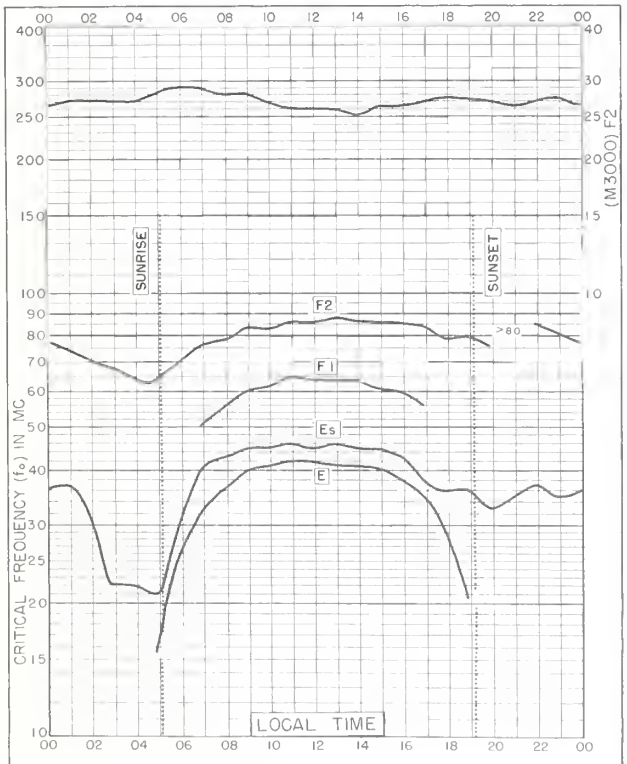


Fig. 95. CANBERRA, AUSTRALIA
35.3° S, 149.0° E JANUARY 1959

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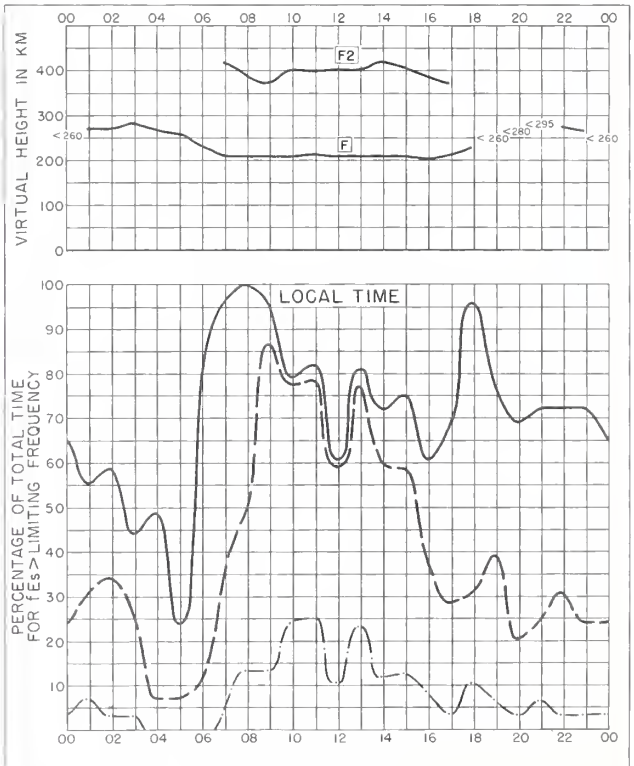

JANUARY 1959

Fig. 96. CANBERRA, AUSTRALIA

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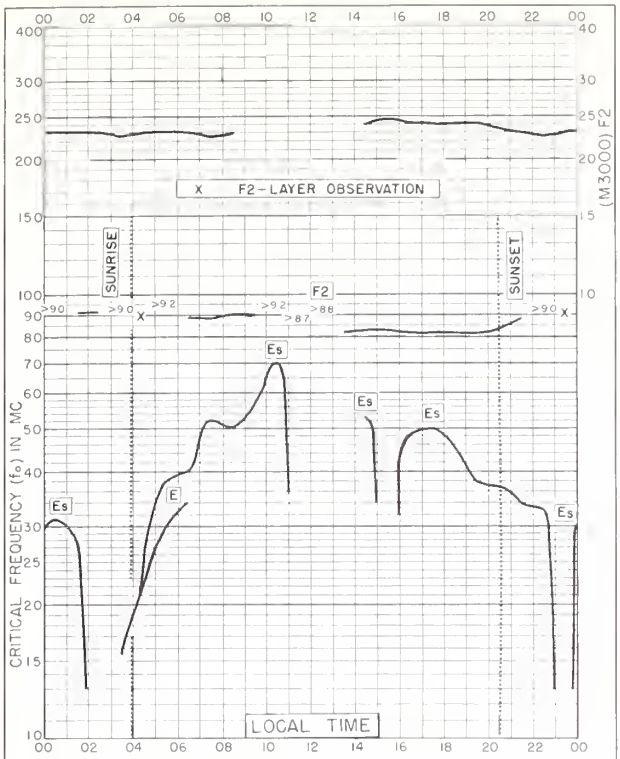

Fig. 97. USHUAIA, ARGENTINA
54.8°S, 68.3°W JANUARY 1959

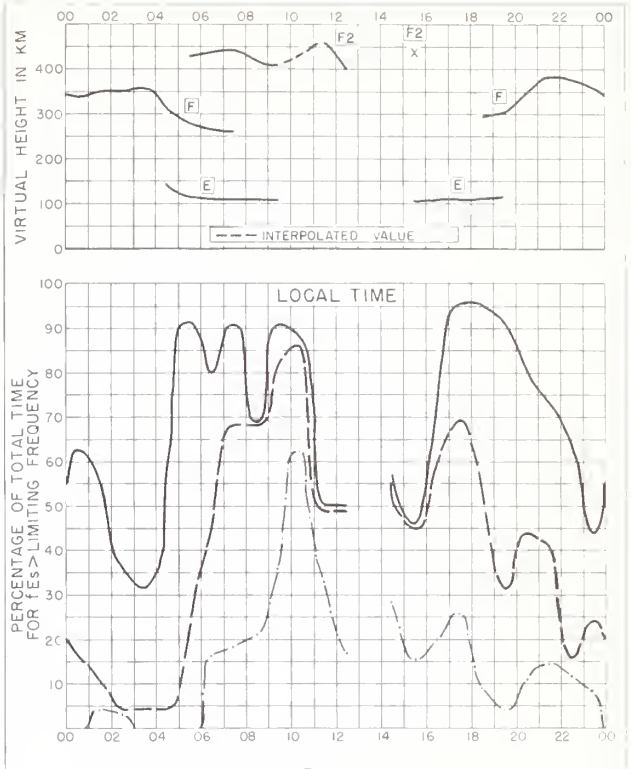

Fig. 98. USHUAIA, ARGENTINA JANUARY 1959

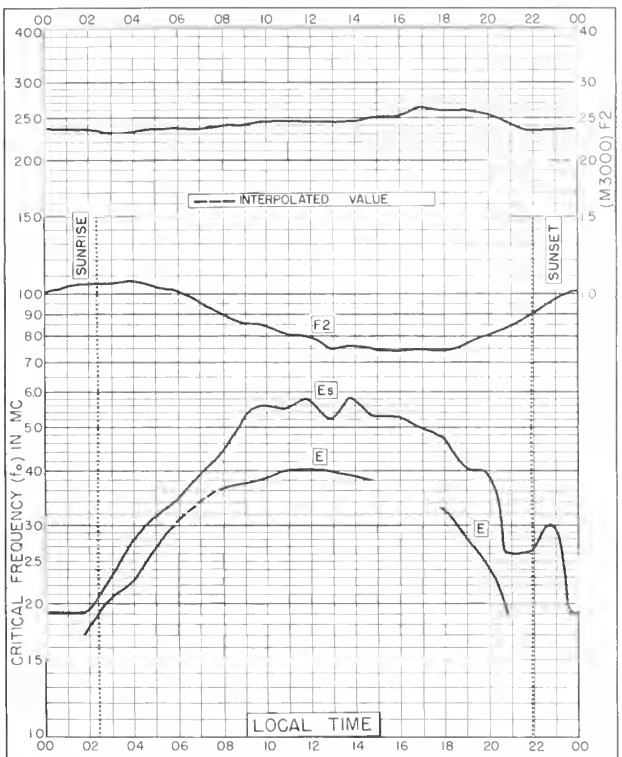

Fig. 99. PORT LOCKROY
64.8°S, 63.5°W JANUARY 1959

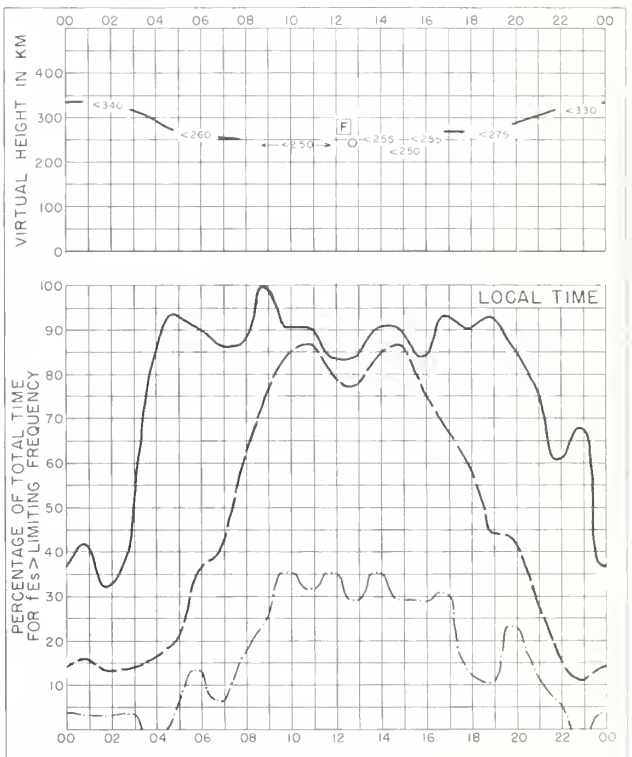

Fig. 100. PORT LOCKROY JANUARY 1959

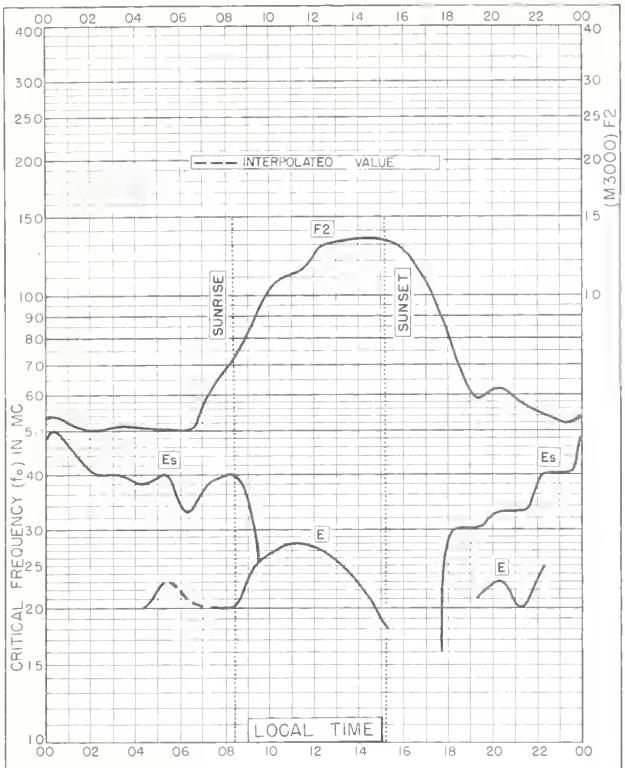

Fig 101. YELLOWKNIFE, CANADA
62.4° N, 114.4° W NOVEMBER 1958

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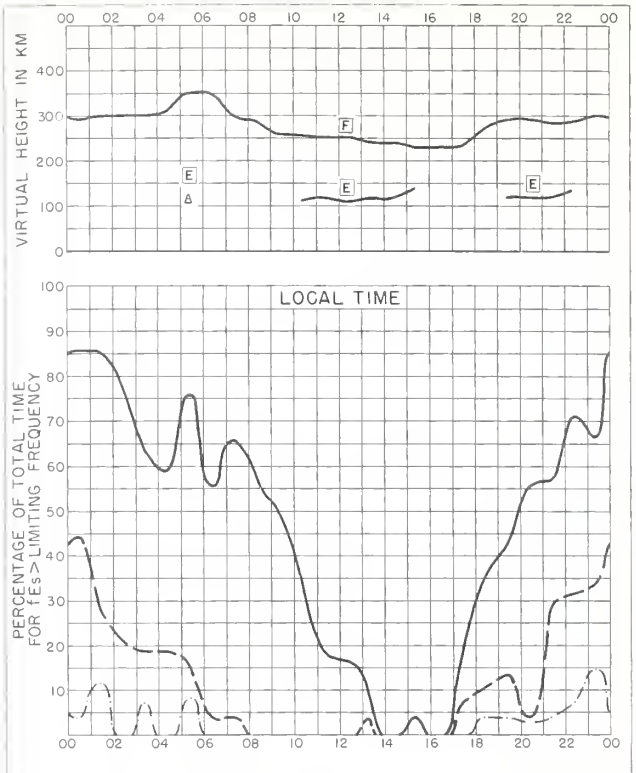

Fig. 102. YELLOWKNIFE, CANADA NOVEMBER 1958

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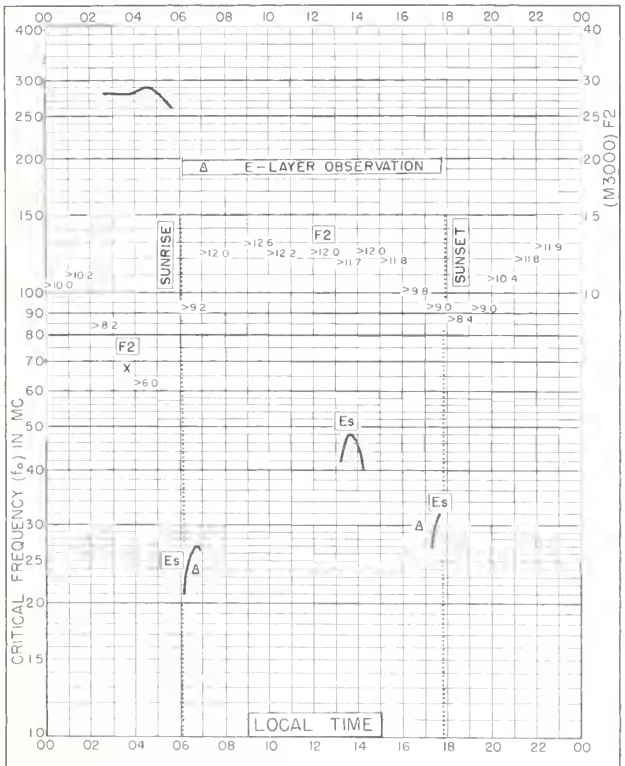

Fig 103. LA QUIACA, ARGENTINA
22.1° S, 65.6° W SEPTEMBER 1958

NBS 503

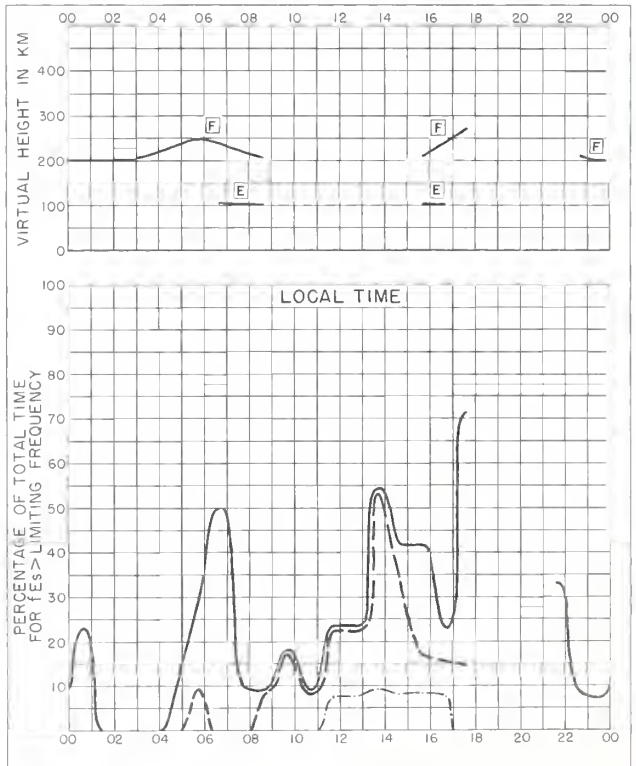

Fig 104. LA QUIACA, ARGENTINA SEPTEMBER 1958

NBS 490

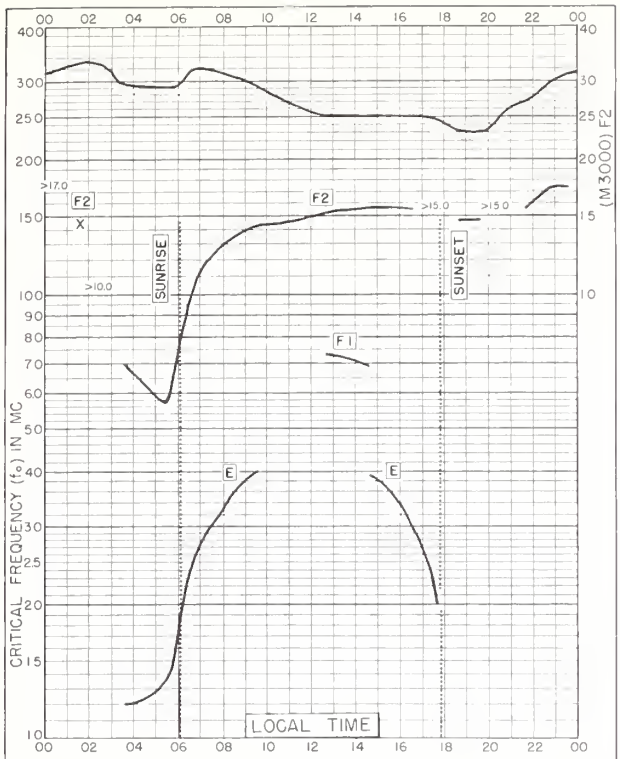

Fig. 105. TUCUMAN, ARGENTINA
26.9°S, 65.4°W SEPTEMBER 1958

NBS 503

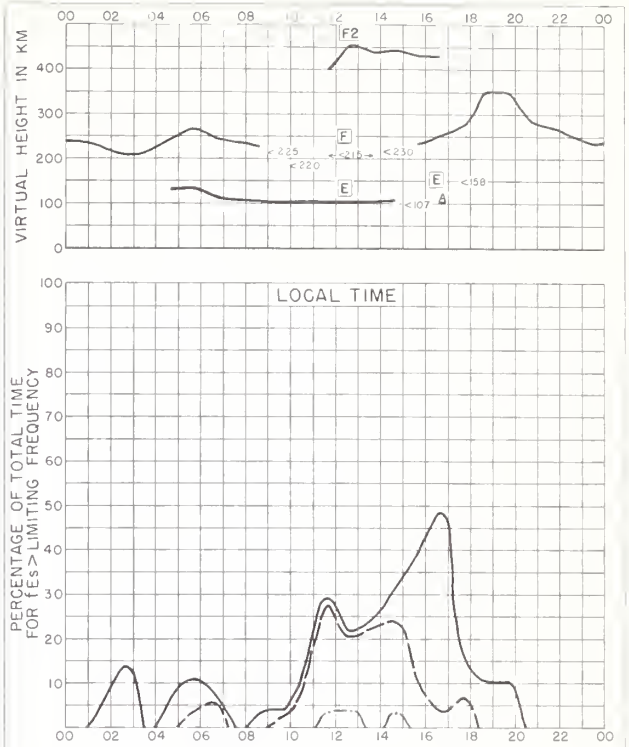

Fig. 106. TUCUMAN, ARGENTINA SEPTEMBER 1958

NBS 490

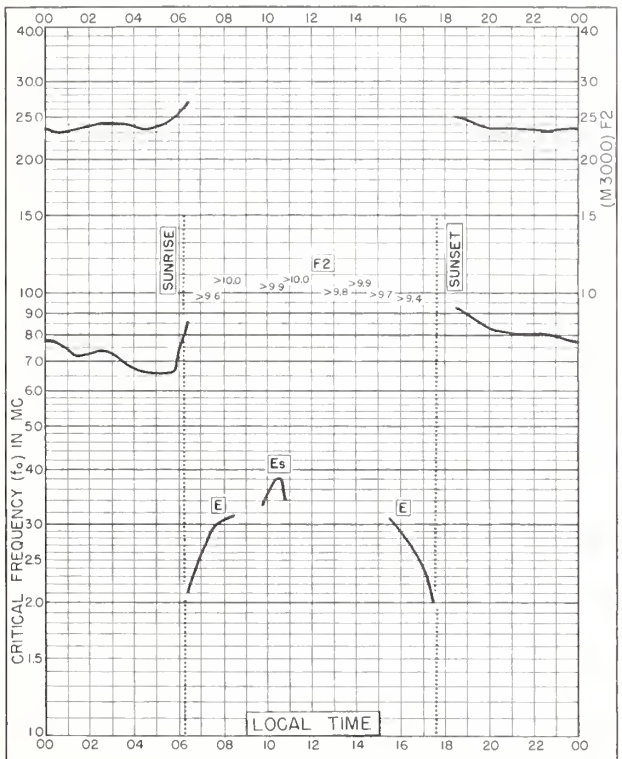

Fig. 107. USHUAIA, ARGENTINA
54.8°S, 68.3°W SEPTEMBER 1958

NBS 503

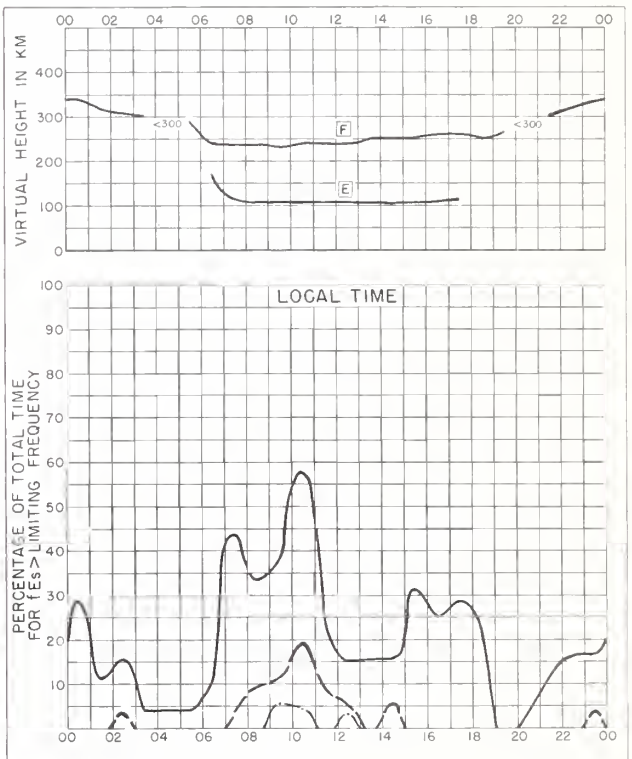

Fig. 108. USHUAIA, ARGENTINA SEPTEMBER 1958

NBS 490

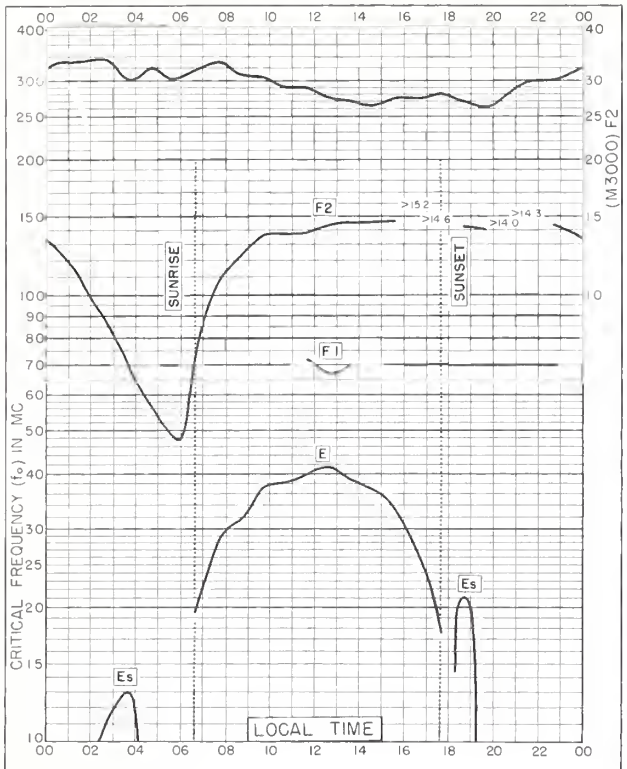

Fig 109. TUCUMAN, ARGENTINA
26.9° S, 65.4° W AUGUST 1958

NBS 503

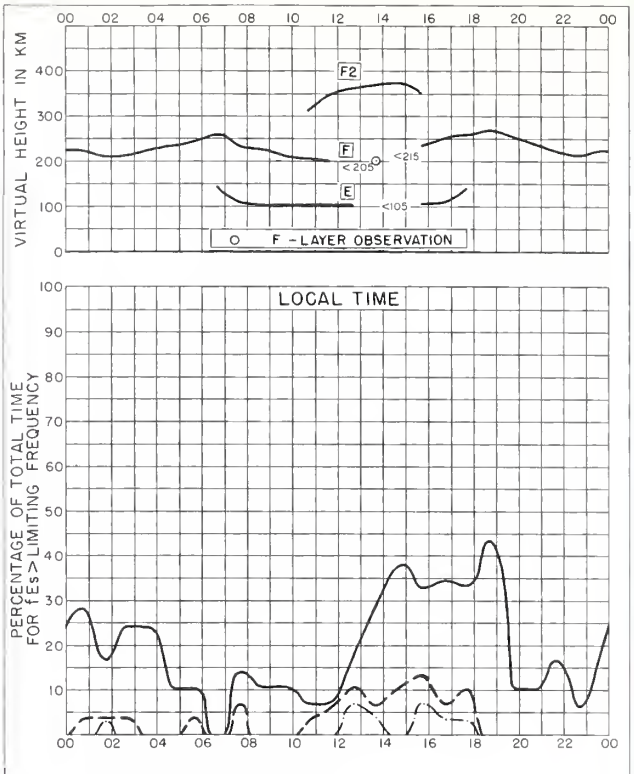

Fig 110. TUCUMAN, ARGENTINA AUGUST 1958

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Fig. 111. GRAHAMSTOWN, UNION OF S. AFRICA
33.3°S, 26.5°E AUGUST 1958

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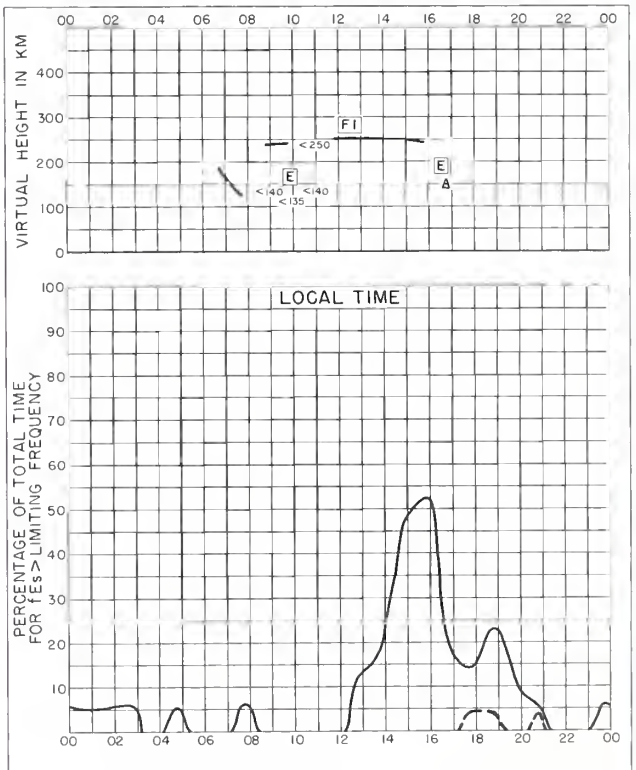

Fig. 112. GRAHAMSTOWN, UNION OF S. AFRICA AUGUST 1958

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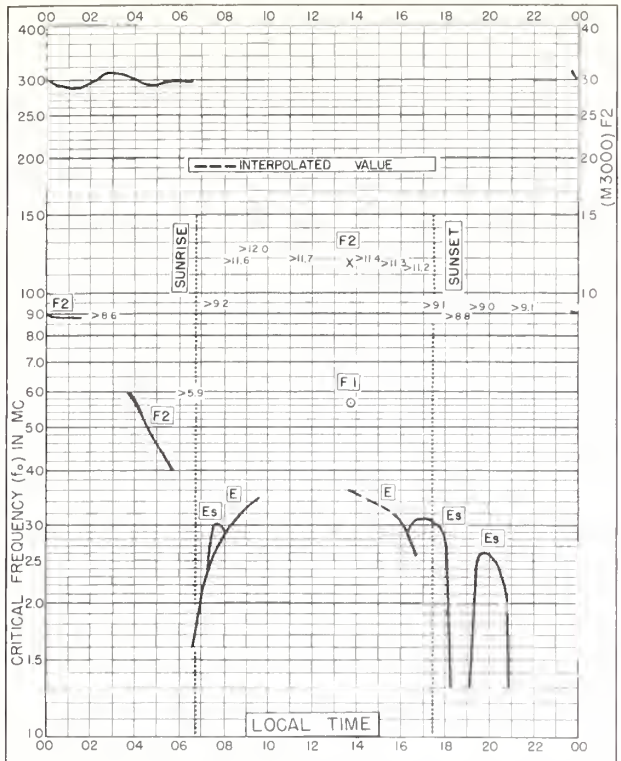

Fig. 113. LA QUIACA, ARGENTINA
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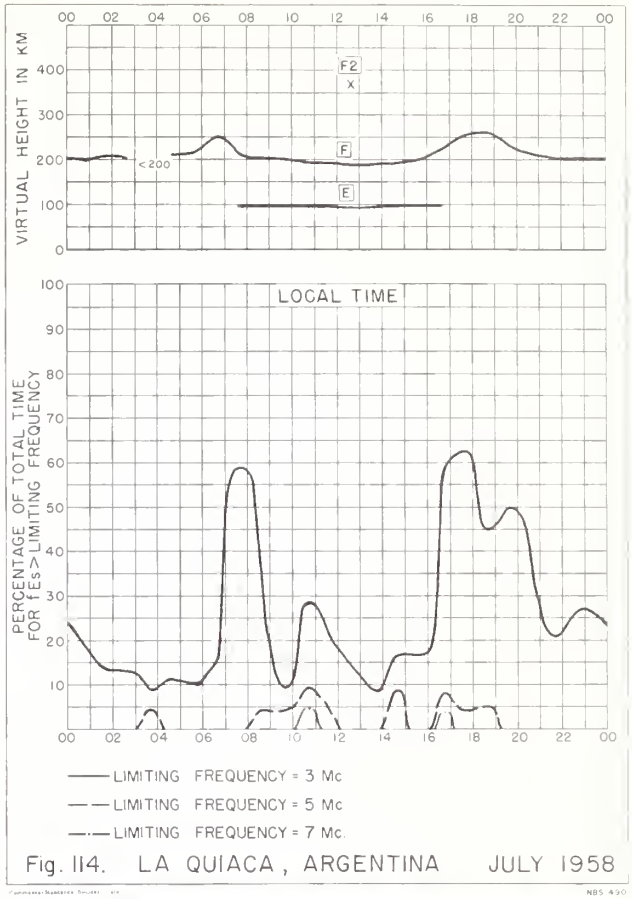

Fig. 114. LA QUIACA, ARGENTINA JULY 1958

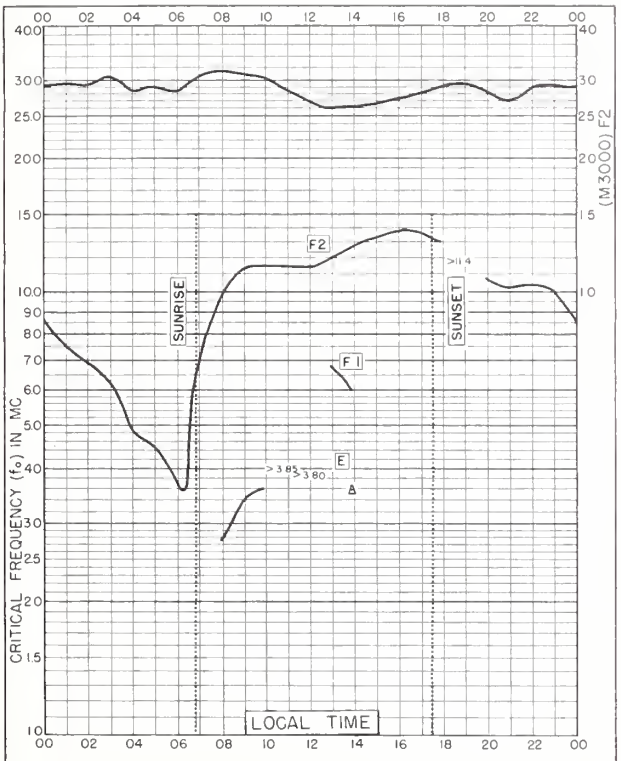

Fig. 115. SAO PAULO, BRAZIL
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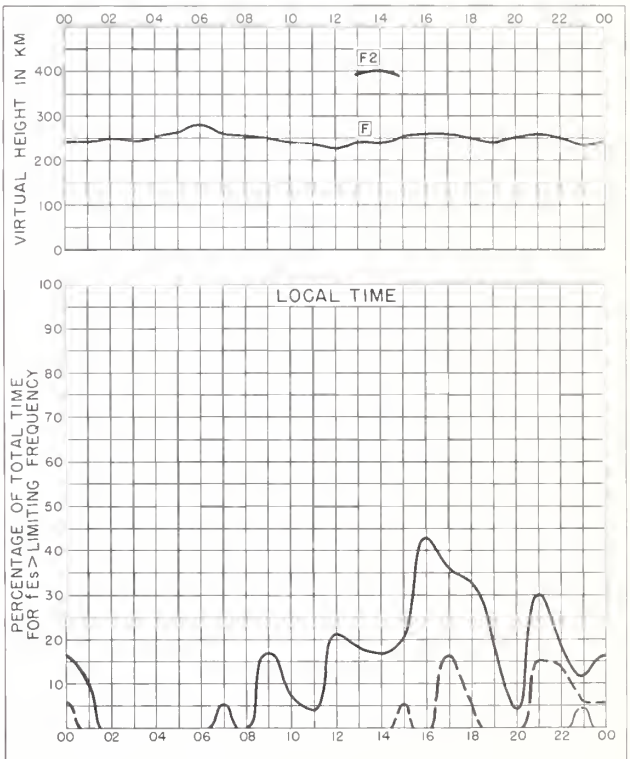

Fig. 116. SAO PAULO, BRAZIL JULY 1958

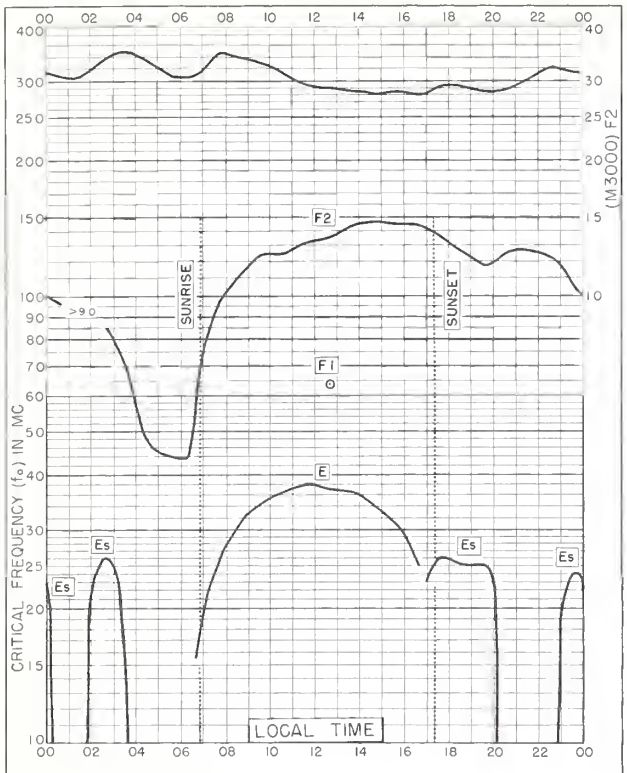

Fig. 117. TUCUMAN, ARGENTINA
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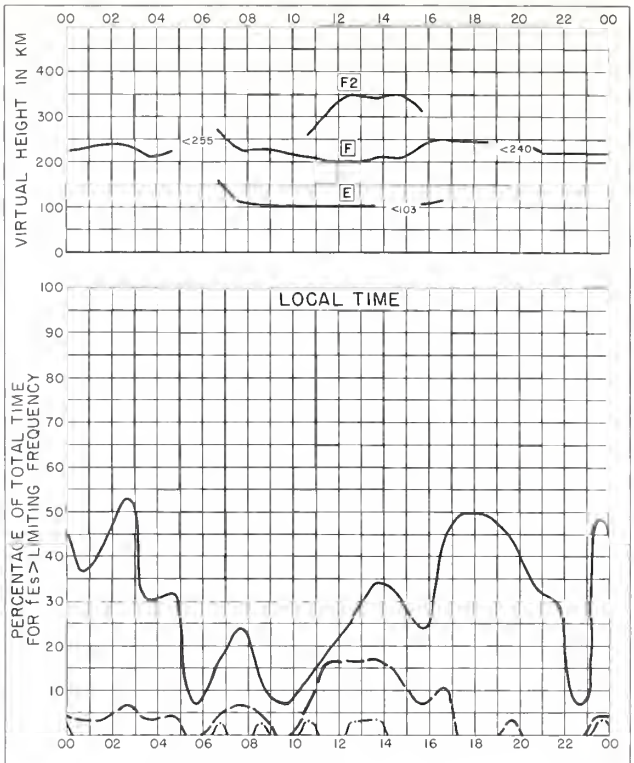

Fig. 118. TUCUMAN, ARGENTINA JULY 1958

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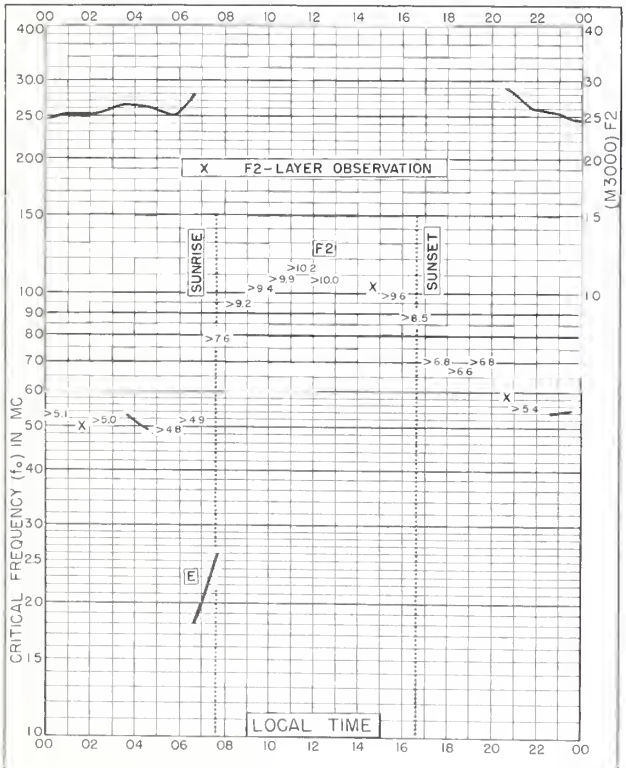

Fig. 119. TRELEW, ARGENTINA
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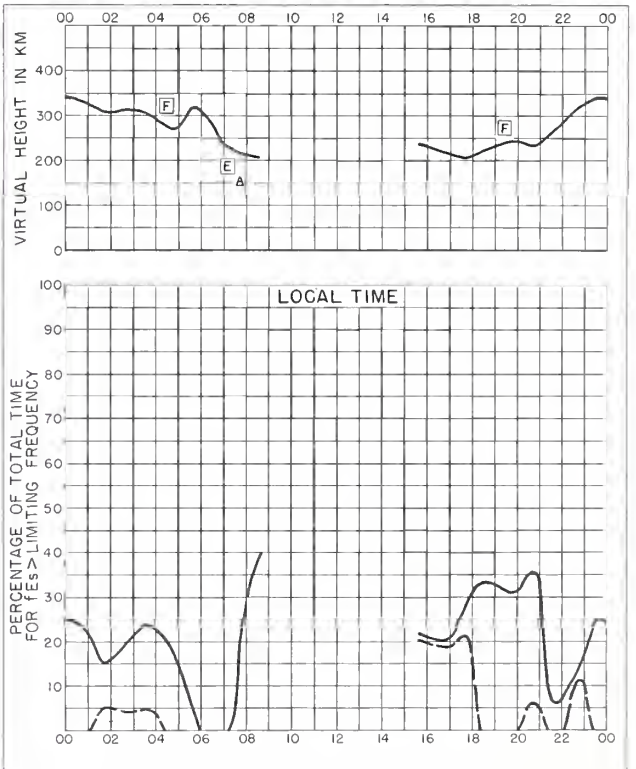

Fig. 120. TRELEW, ARGENTINA JULY 1958

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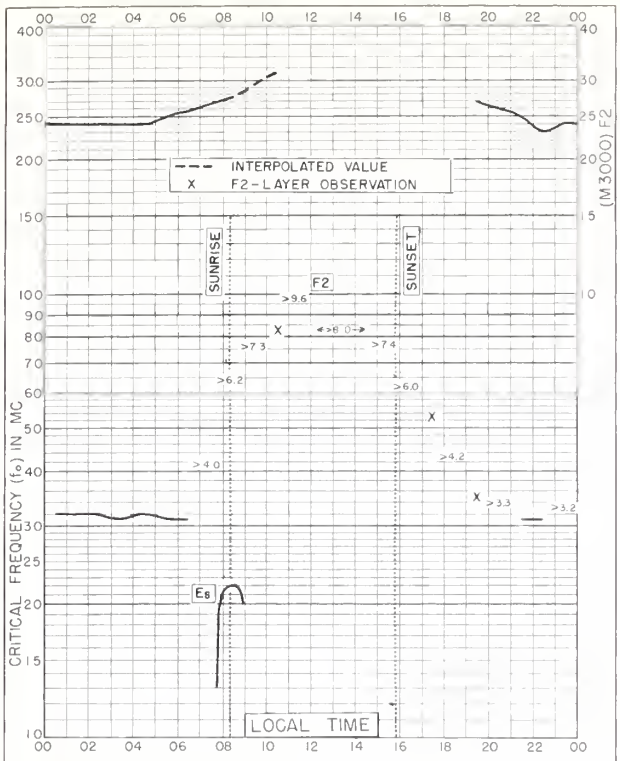

Fig. 121. USHUAIA, ARGENTINA
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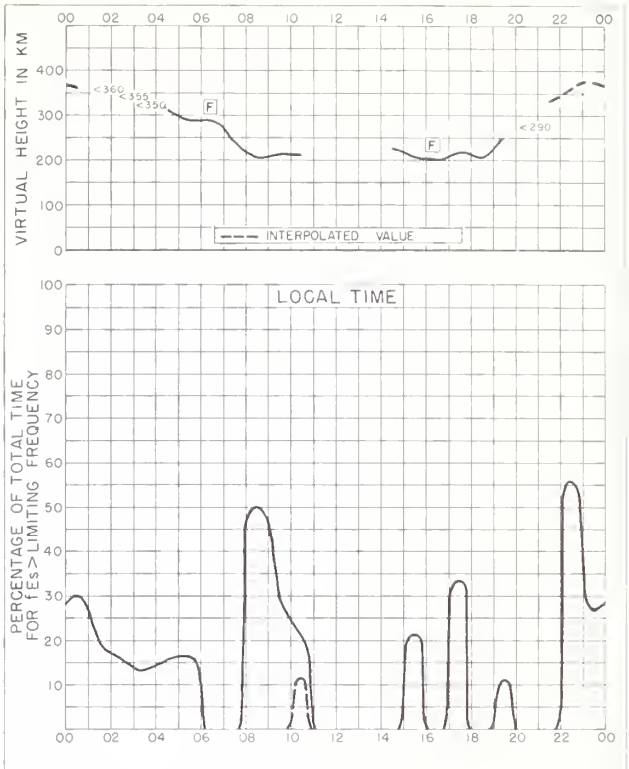

Fig. 122. USHUAIA, ARGENTINA JULY 1958

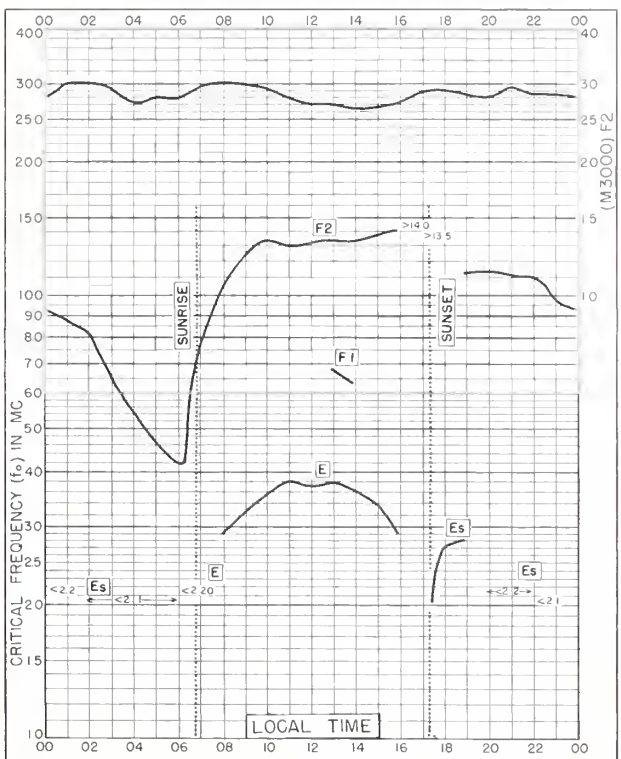

Fig. 123. SAO PAULO, BRAZIL
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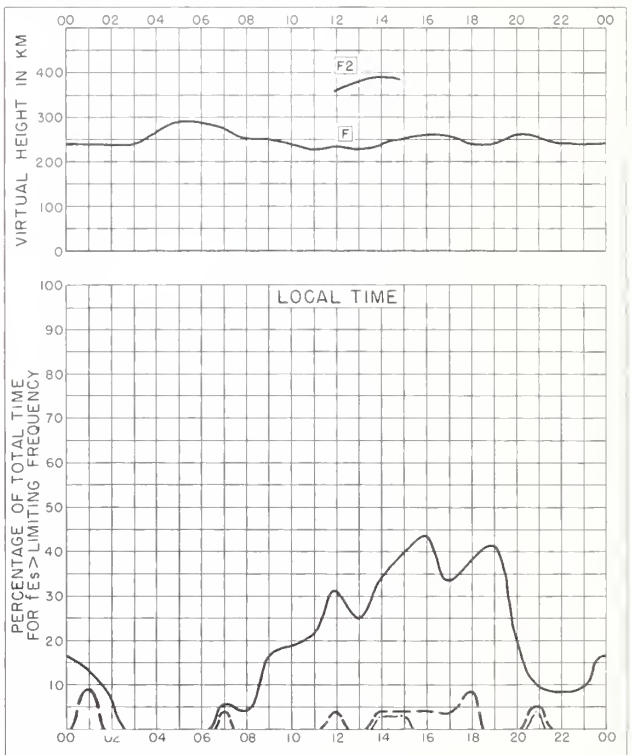
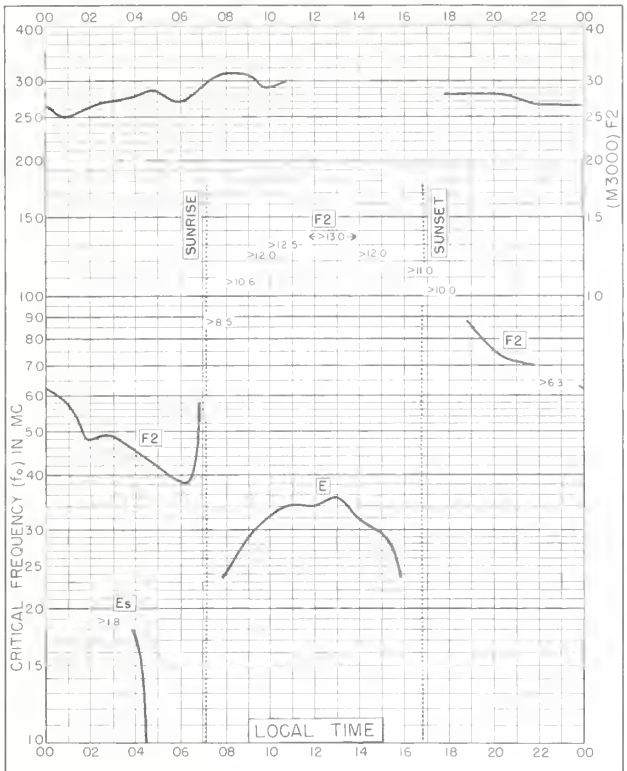


Fig. 124. SAO PAULO, BRAZIL JUNE 1958



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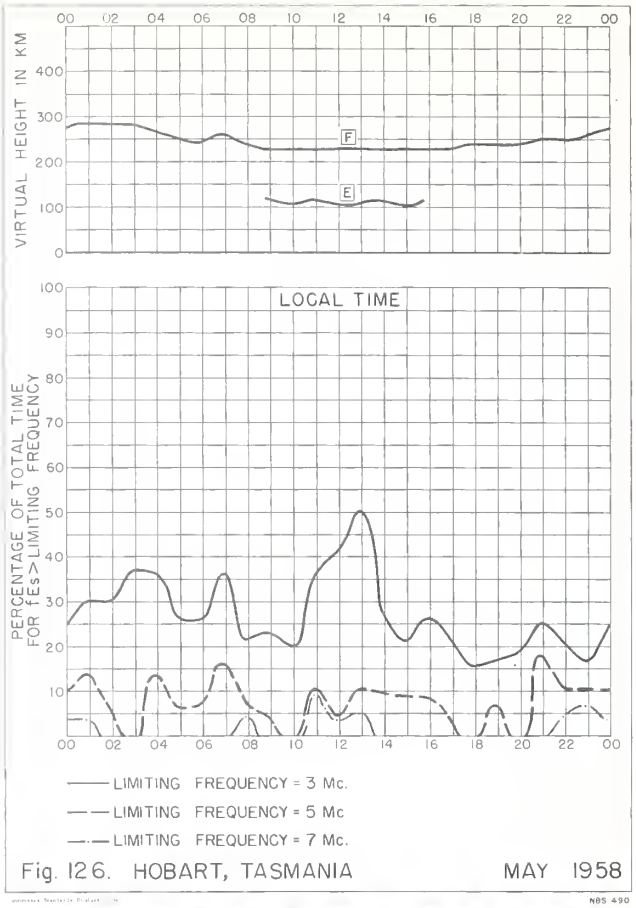

Fig. 126. HOBART, TASMANIA MAY 1958

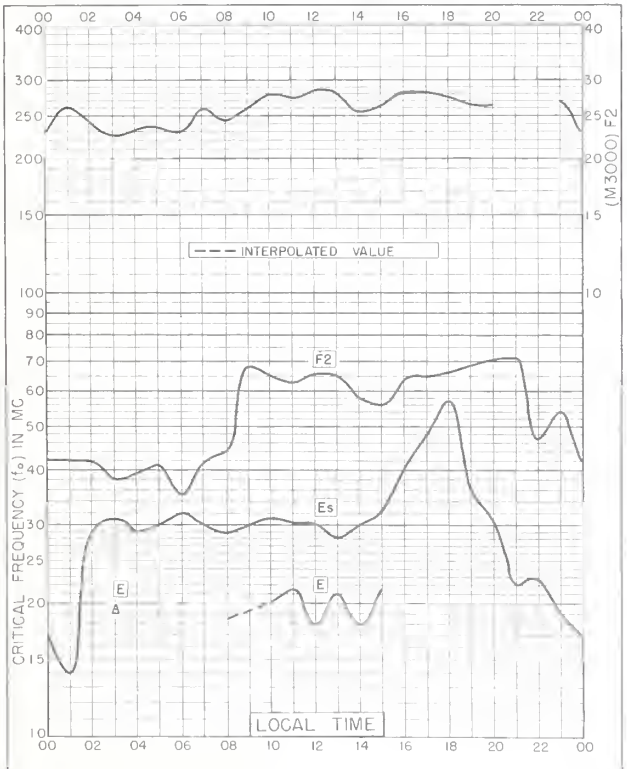

Fig. 127. SVALBARD, NORWAY
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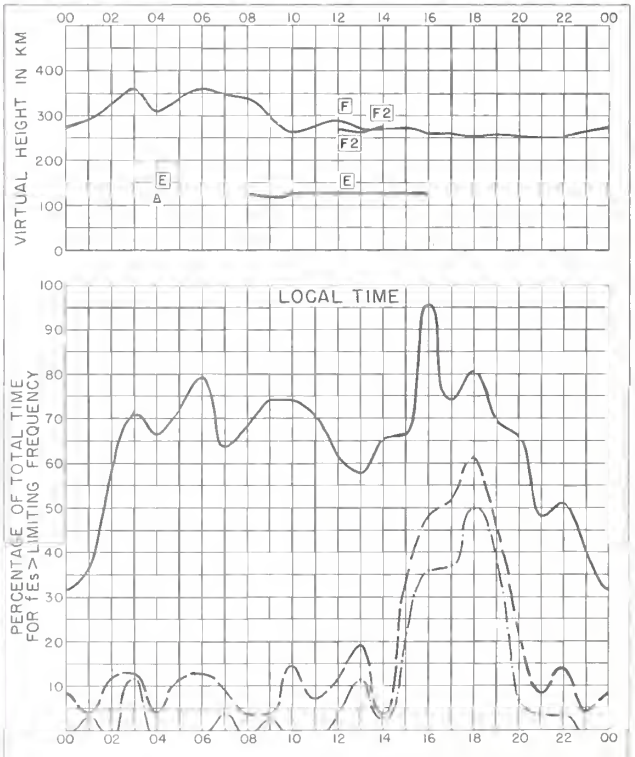

Fig. 128. SVALBARD, NORWAY FEBRUARY 1958

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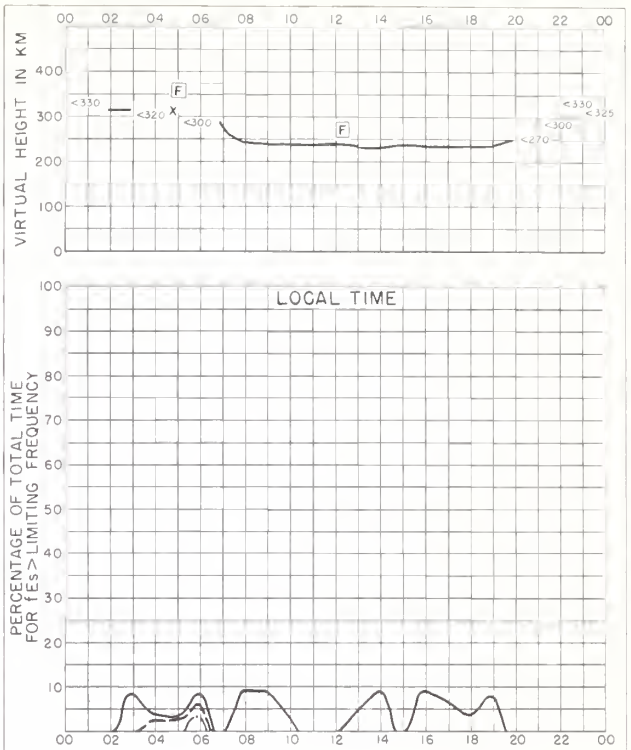

Fig. 130. JULIUSRUH/RÜGEN, GERMANY FEBRUARY 1958

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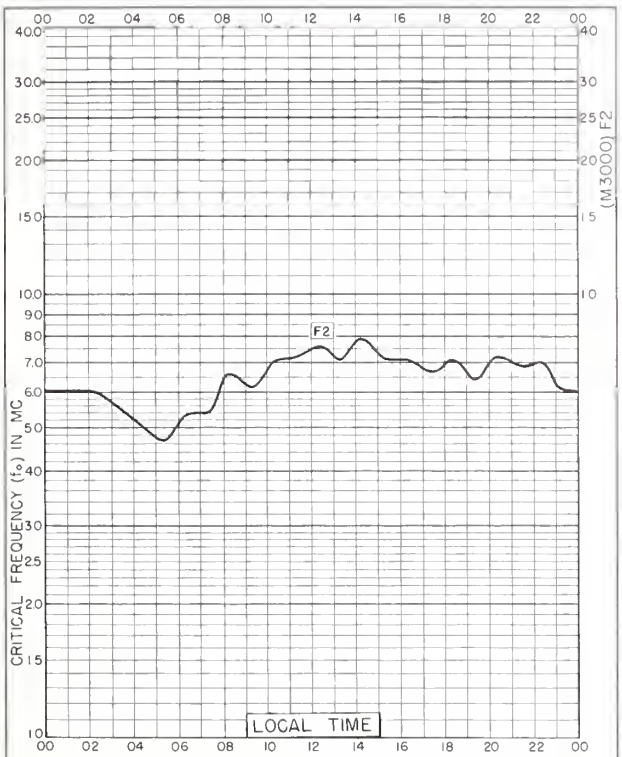

Fig. 131. EUREKA, CANADA
80.0° N, 85.9° W JANUARY 1958

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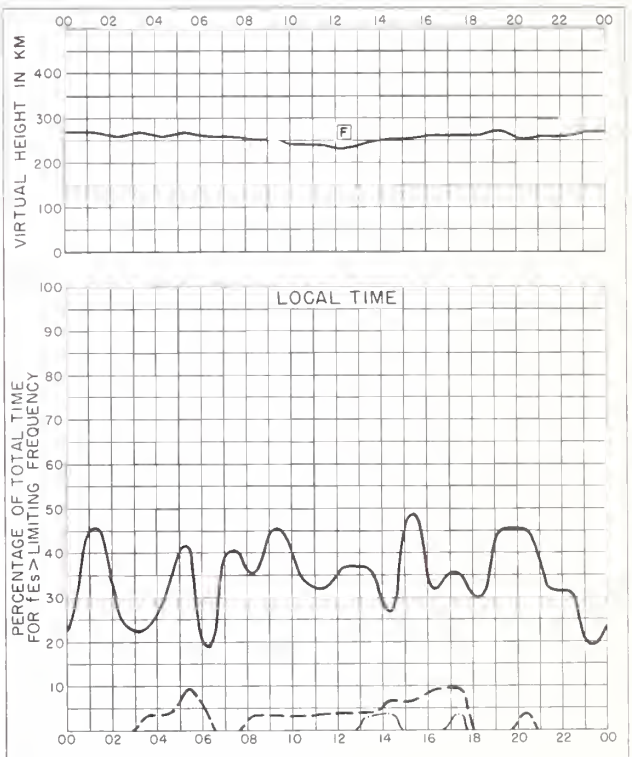

Fig. 132. EUREKA, CANADA JANUARY 1958

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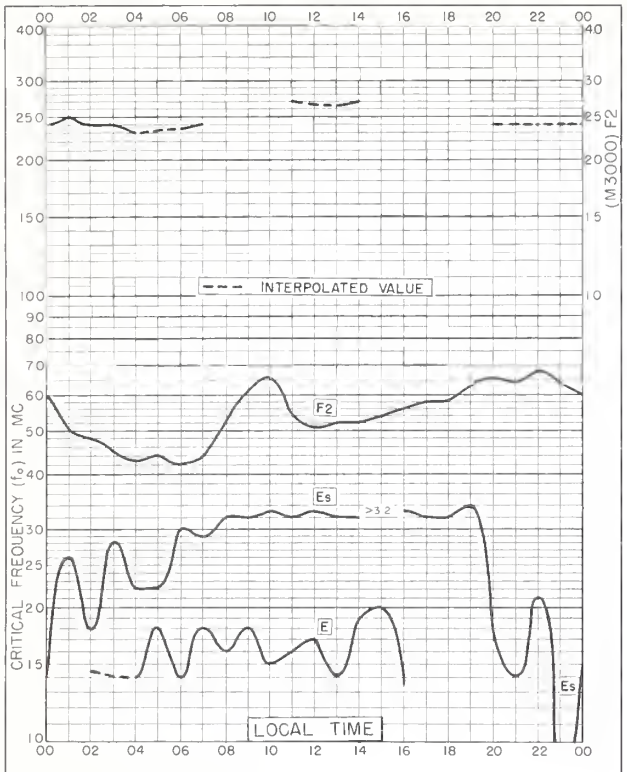

Fig. 133. SVALBARD, NORWAY
78.2° N, 15.7° E JANUARY 1958

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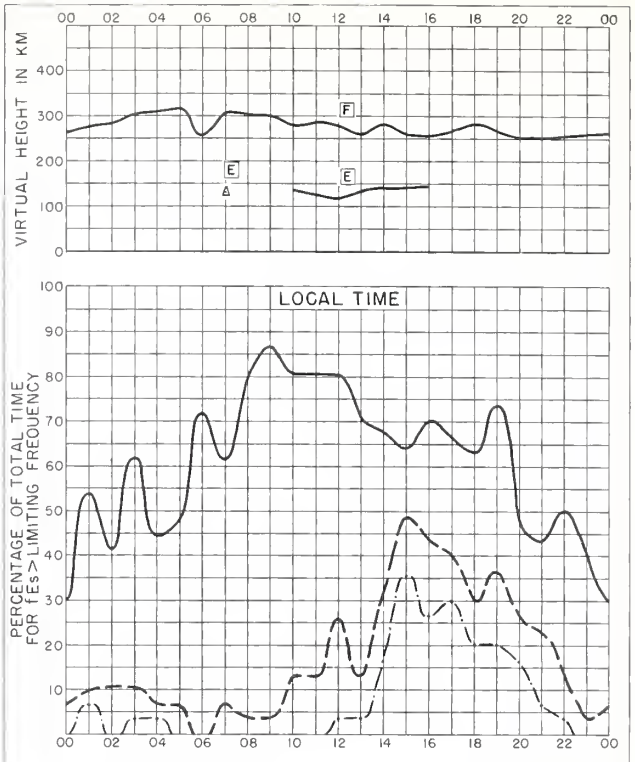

Fig. 134. SVALBARD, NORWAY JANUARY 1958

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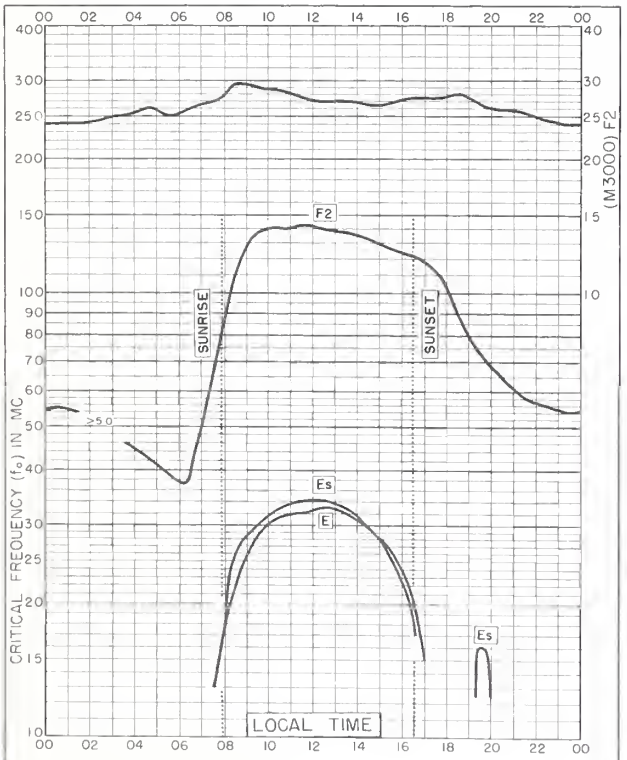

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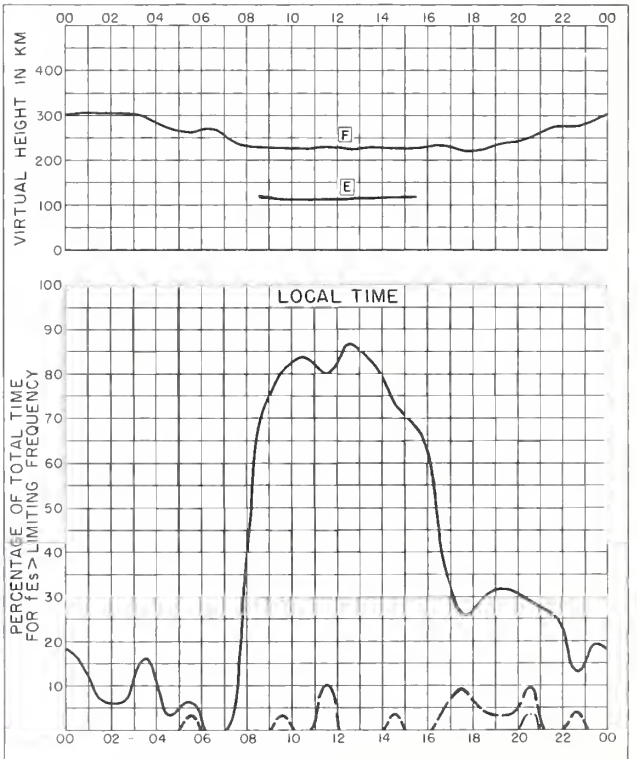

Fig. 136. FREIBURG, GERMANY JANUARY 1958

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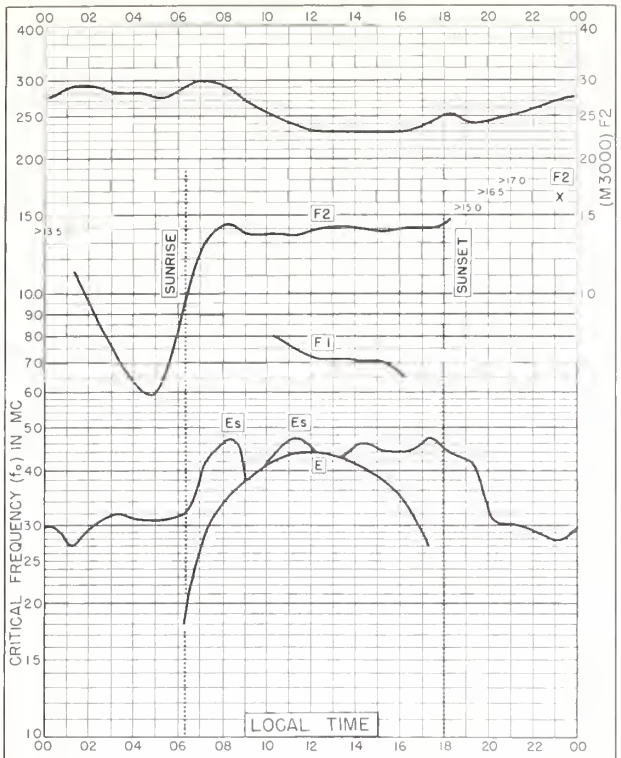

Fig. 137. PARAMARIBO, SURINAM
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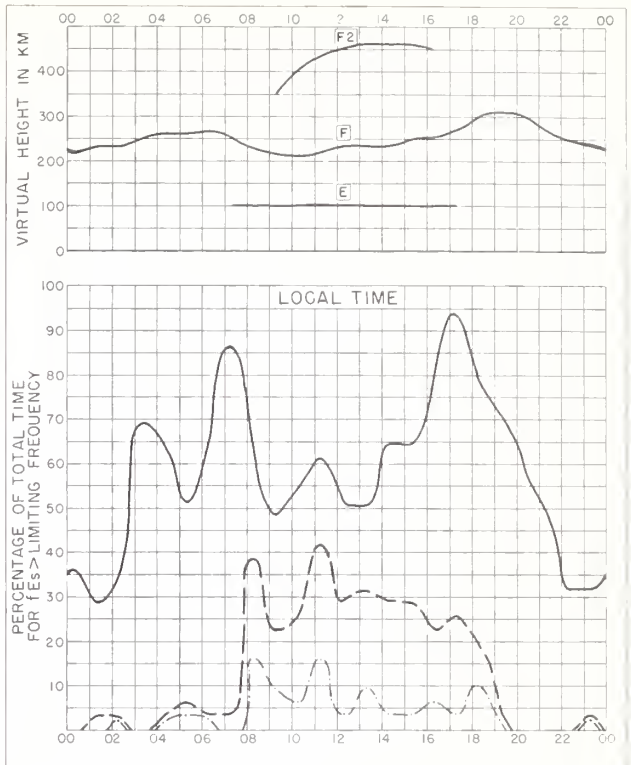

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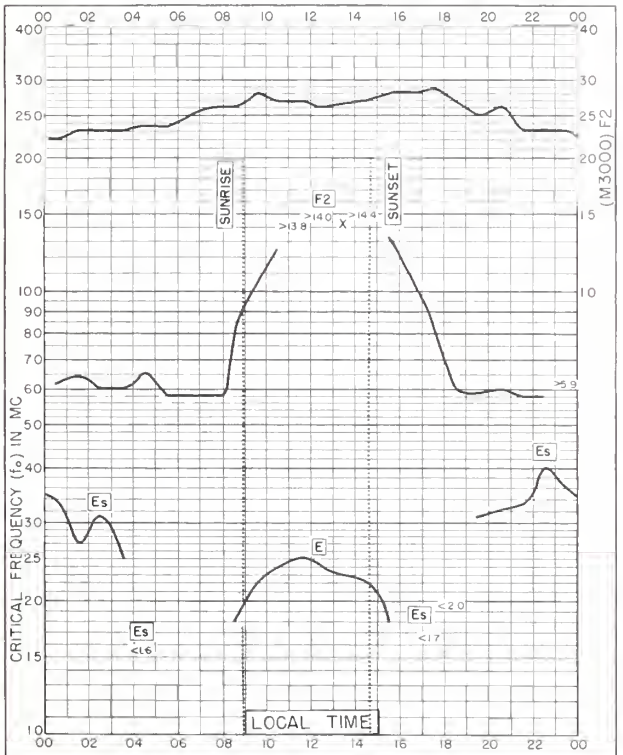

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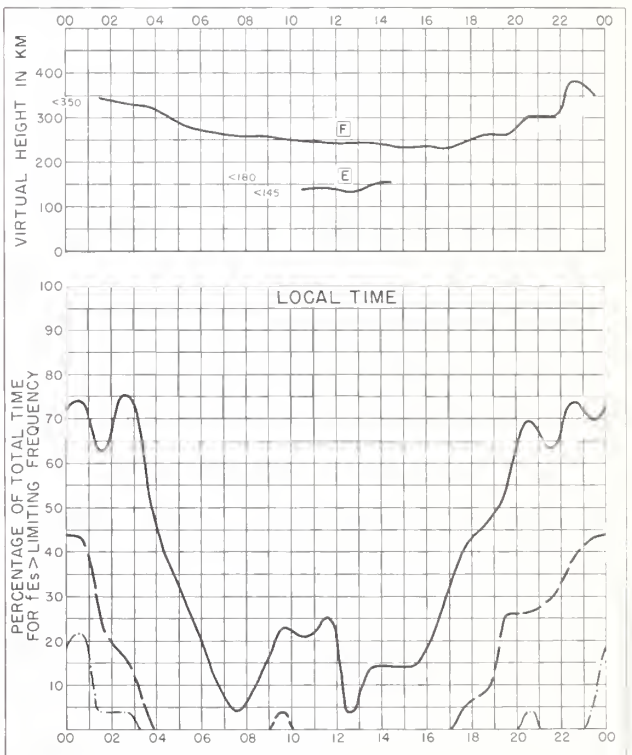

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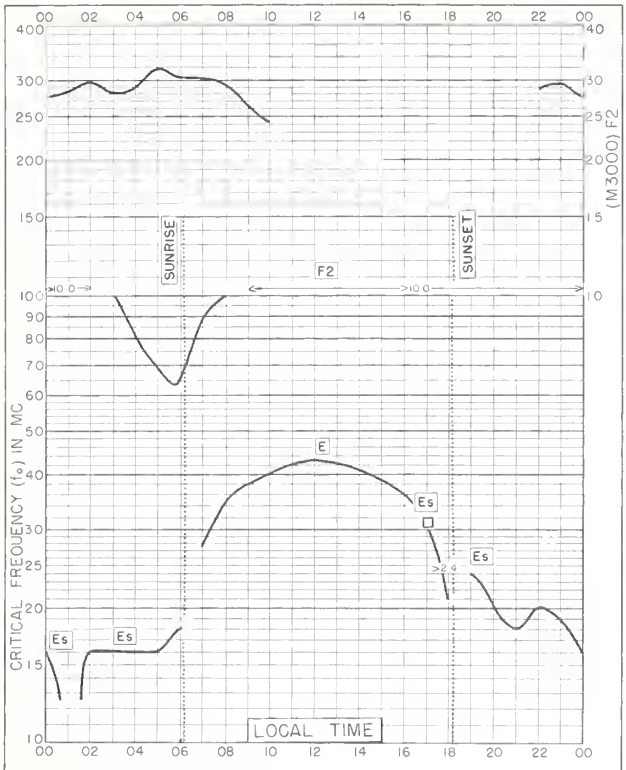

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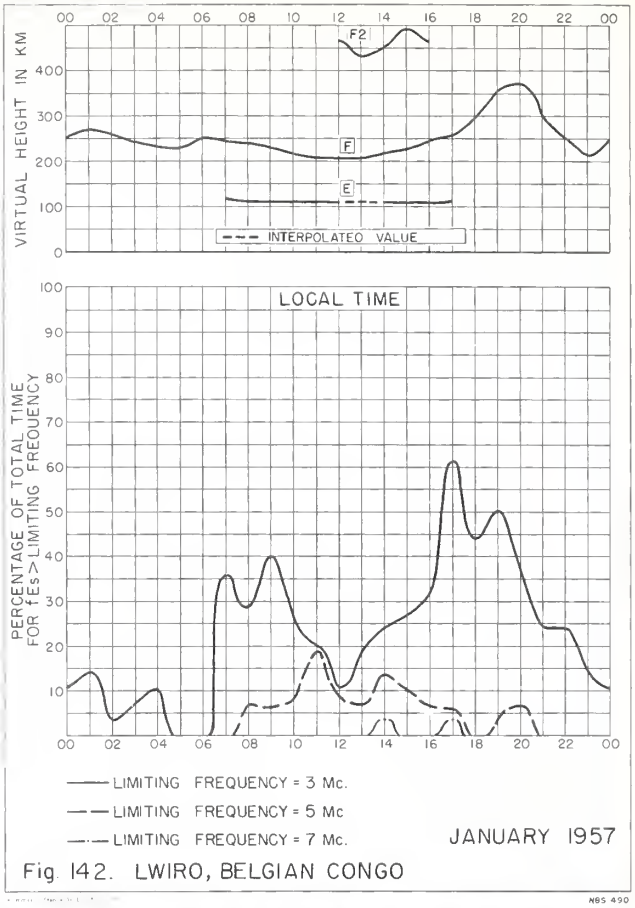

JANUARY 1957

Fig. 142. LWIRO, BELGIAN CONGO

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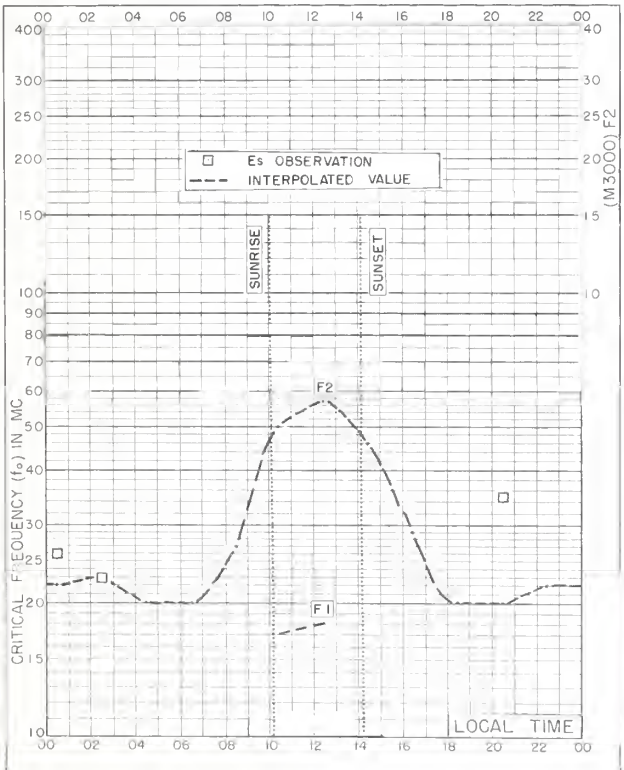

Fig 143. LULEA, SWEDEN
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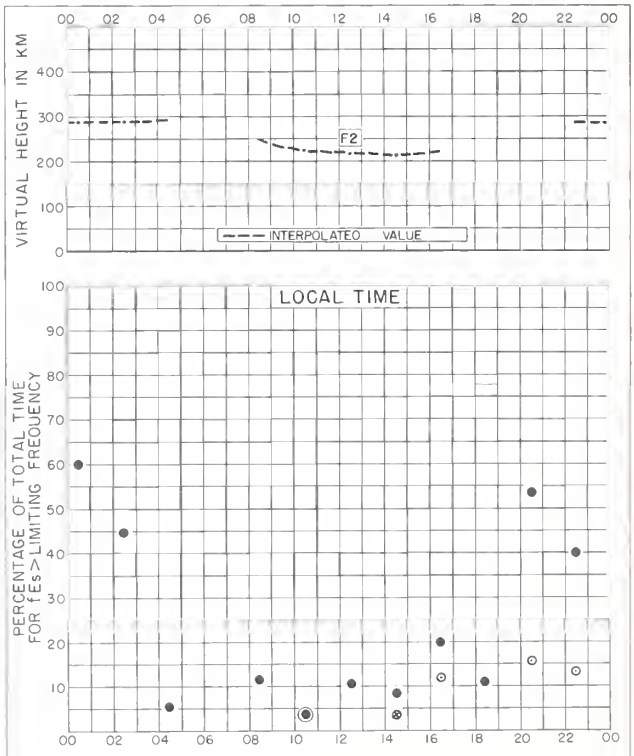

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[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

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Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Semiweekly:

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CRPL—Jp. North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL—D Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11—499–, monthly supplements to TM 11–499; Dept. of the Air Force, TO 31–3–28 series). On sale by Superintendent of Documents.* Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.
(Part B). Solar-Geophysical Data.
Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. $1.25.
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